

SYLLABUS

2018-19



ENGLISH



Dpt. of English, 2018-2019

(4)

KVR Govt College For Women

25

Kusnool

w.e.f from 2018-2020

Date: 20.6.2018

Department of English
Minutes of Meeting

Time: 2 PM

The members of Board of studies met in the Department of English on 20.6.18 at 2.30 PM under the chairmanship of Smt. P. Subbarajaganesa, Lec in English, In-charge of the dept of English and discussed the proposals on the modification of curriculum of UG I, II, III Sem English, II, III, IV CSS foundation course and I, II, III, IV, V, VI Sem Advanced English and passed the following resolutions.

1. Approval of UG English I, II, III Semesters. Syllabus. and added listening skill.
2. Approval of UG foundation course CSS I, II, III Syllabus.
3. Approval of Advanced English I, II, III, IV, V, VI Semesters Syllabus.
4. To ~~left~~ Follow the Rayalaseema University Pattern of Question Paper 40 + 60 = 100 M.
Internal (40 M) External (60 M)

1. Division of Internal Marks as follows:

- | | | |
|---------------------------------------|---|-------|
| a) Internal Assessment Exam | = | 20 M. |
| b) Assignment | - | 5 M |
| c) Seminar / Project | - | 5 M. |
| d) curricular aspects / Quiz / viva / | ? | 5 M |

2018-2019

28

General English Question paper (pattern)

2. External Marks (60 M)

Section - A

1. Prose for 8 M.
 2. Poetry for 8 M.
 3. Short story for 8 M.
 4. One-Act play 8 M.
 5. Comprehension 8 M.
- } 40 M.

Section - B

1. Tenses
 2. Articles
 3. Prepositions
 4. Question Tags
- } 20 M.

→ X

Modifications in the Syllabus.

I Sem. General English.

Unit I prose :- In place of Knowledge Society - The power of prayer by Abdul Kalam is introduced.

Unit II poetry: In place of The Night of the Scorpion - Daffodils famous poem of Wordsworth is introduced.

Unit III Short story: The loaded Dog by Henry Lawson is replaced by What is My Name - P. Satyawati is introduced.

~~There is no~~ ^{ok} Change in the syllabus prescribed by ^{in mad} Rajalaseema University followed as per

II Semester General English

In unit - IV Drama. A Marriage proposal by Anton Chekov is replaced by The Never-Never Nest by Cedric Belfrage because it is quite relevant to the present situation.

No other change in

Semester III - General English.

Unit I Prose

In place of 'why people really love Technology' by Alex. Madrigal
'The Conjuror's Revenge' by Stephen Leacock is added.

Unit II - In Unit II there is no change

Unit III Short Story -

Instead of 'The Insipidities of Maladies' - Jyoti Sahir
'The Last Leaf' - O Henry is introduced.

Advanced English.

I Sem.

In Unit IV poetry

William Shakespeare's 'All the world is a stage' is ^{added.} ~~introduced.~~

II Sem.

No change is made in any semester i.e. II, III, IV, V, VI.
Followed in R.V Syllabus as it is ~~be~~.

P.S. Singh

20/6/18

Chairperson

BOS, English

Department of English

K.V.R. Govt. College for Women (Autonomous),
KURNOOL

K.V. GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Established in 1958 under G.O.Ms.No.197 Edn. Dt.27-01-1958

Accredited at "A" Grade by NAAC,

2018-2019



KURNOOL

BOARD OF STUDIES MEETING

DEPARTMENT OF ENGLISH

20.6.2018

MEMBERS OF BOARD OF STUDIES

S.NO	Name	Designation	Signature
01	Smt.P.Subbarajamma, Lecturer in English K.V.R.Govt. College (W), Kurnool (A)	Chairperson	P.S. Rajya 20/6/18
02	Prof. M.Narendra S.V.University, Tirupati	University Nominee	M. Narendra 20.6.18
03	Dr.S.Mahaboob Basha, Associate Prof. Osmania College, Kurnool (A)	Subject Expert	Dr. S. Mahaboob Basha 20/6/18
04	Dr.E.V.Bhaskar Reddy, Lecturer in English Sri Ramakrishna Degree College, Nandyal	Subject Expert	Dr. E. V. Bhaskar Reddy 20.6.18
05	Dr. M.Farida Begum, Asst. Prof in English K.V.R.Govt. College(W), Kurnool (A)	Member	M. Farida 20/6/18
06	Sri.S.Panduranga Reddy, Lecturer in English K.V.R. govt. College (W), Kurnool (A)	Educationalist	S.P. Reddy 20/6/18
07	Smt.Rama Devi, J.L in Chemistry Govt. Junior College For Girls, Kurnool	Alunae	R. Rama Devi 20/6/18
08	Sri.g.Viswanath yadav, Manager, Praise Group. Kurnool	Industrialist	G. Viswanath 20/6/18
09	Kum. Vani III B.A., A.E. K.V.R.Govt. College(W), Kurnool (A)	Student Representative	V. Vani 20/6/18
10	Kum.Shaki- Solomite II B.A.A.E	Student Representative	S. Solomite 20/6/18

KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS) KURNOOL
FIRST YEAR ENGLISH FOR B.A./ B.Com./B.Sc. COURSES UNDER CBCS

Syllabus 2018-19

SEMESTER -- I

UNIT - I PROSE

1. A.P.J. Abdul Kalam ----- The Power of Prayer
2. Ngugi wa Thiongo's ----- The Language of African Literature

UNIT - II POETRY

1. Robert Frost ----- THE Road Not Taken
2. William Wordsworth ----- Daffodils

UNIT - III SHORTSTORY

1. Mulk Raj Anand ----- The Lost Child
2. P. Satyavathi ----- What is My Name?

UNIT – IV ONE-ACT PLAY

William Shakespeare ----- The Merchant of Venice (Act iv scene i)

UNIT – V Language Activity

Classroom & Laboratory Activities

1. Sound (pronunciation)
2. Sight (Spelling)
3. Sound (Meaning)
4. Syntax (Usage)

Classroom Activity -- Grammar

1. Articles
 2. Prepositions
 3. Tenses
 4. Question Tags
-

KVR GOVERNMENT COLLEGE FOR V WOMEN (AUTONOMOUS) KURNOOL
FIRST YEAR ENGLISH FOR B.A./ B.Com./B.Sc. COURSES UNDER CBCS

Syllabus 2018-19

SEMESTER – II

Unit -- PROSE

- 1 J.B.S.Haldane ---- The Scientific Point of View
2. A.G. Gardiner --- On Shaking Hands

Unit –II POETRY

- 1 John Keats --- Ode to Autumn
- 2.Kishwar Naheed --- I am not that Woman

Unit –III SHORTSTORY

- 1.Ruskin Bond ---- The Boy Who Broke the Bank
- 2.R.K.Narayan ---- Half a Rupee Worth

Unit - - IV DRAMA

- Cedric Mount --- Never-Never Nest

Unit—V LANGUAGE ACTIVITY

Classroom and Laboratory Activities

- 1 Transformation of sentences (Voice,Speech and degrees of comparison)
- 2 Dialogue Practice (oral)
- 3.Listening Comprehension

Classroom Activities

- 1.Guided Composition
- 2.Dialogue writing
- 3 Reading Comprehension



KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS) KURNOOL

2018-2019

I SEMESTER EXAMINATION –MODEL PAER

PART (1)(A) ENGLISH

PAER-1; PROSE, POETRY, NON-DETAILED, ONE ACT PLAY & GRAMMAR

TIME 3 HOURS

MODEL PAPER

MAX MARKS: 60

SECTION-A

Answer any FIVE of the following.

1 .Fill in the blanks using suitable Articles 4X1=4

a) I saw -----elephant at ---- gate.

b) He is -----European.

c) She is-----M.P.

2. Fill in the blanks using suitable Prepositions. 4X1=4

a) She is going -----bazaar-----an auto.

b) Rani is senior-----Raju.

c) She goes -----foot.

3. Choose the right question tags given in the brackets. 4X1=4

a) She is a woman----- (isn't she/is she)

b) I am a man----- (am'nt I/aven't I)

c) She wrote a letter----- (did't she/did she)

d) She will drink coffee---- (won't she/will she)

4. Write correct spelling for the following words. 4X1=4

a) Occa----- (sion/tion)

b) Genera----- (tion/sion)

c) ~~Observa~~ ----- (tion/sion)

d) Crea----- (tion/sion)

5. Match the following words.

4X1=4

A

B

- | | | |
|---------------|------------------|--------|
| a. Sympathy | i . Indiscipline | () |
| b. Modern | ii . Impolite | () |
| c. Polite | iii. Ancient | () |
| d. Discipline | iv. Pity | () |
| | v. Revenge | () |
| | vi. Variety | () |

6. Fill in the blanks in the following sentences with suitable verb forms.

4X1=4M

- a) She ----- (goes/went) to college regularly.
- b) She ----- (goes/went) to a picture yesterday.
- c) I ----- (have finished/has finished) my work just now.
- d) The Sun ----- (rises/rised) in the East.

7. Select an appropriate word for each of the following sentences from those given in brackets.

4x1:4M

- a) I want ----- of life (peace/ piece
- b) I bring milk ----- (dairy/ diary)
- c) I had ----- (already/ already)
- d) She completed ----- (course/ coarse) in Hotel management.

8. Add prefixes for the following words.

- a) ----- annual . b) ----- nary
 - c) ----- sphere d) ----- chotomy.
-

9. Read the following passage carefully and answer the questions that follow.

8X1=8

A modern educator naturally has to adopt his way to modern circumstances, and put away weapons. The flat scale is employed only at the primary stage. At higher levels of education torments to a young soul are devised in subtler forms progressively; admissions; text books and examinations are the triple weapons in the heads of an educator today. In June every father and son go through a purgation of waiting at the doors of every college.

1. A modern educator has to give up-----

2. The weapon here is -----

3. Where is the father and son are waiting?

4. What is primary stage?

5. What are the triple forms?

6. When do the admissions take place?

7. Give antonym to "modern".

8. What is the passage about? -----

10. Answer the following questions about 120 words each

1X8=8M

What do you know about Kalam views on religion with a secular spirit?

(OR)

Describe Negugis experience about language.

11. Answer any One of the following about 120 words each .

1X8= 8M

What is the central idea of the poem, The Road Not Taken?

(OR)

Describe love of nature in the poem, Daffodils'.

12. Answer any One of the following in about 120 words each.

1X8=8M

~~Write the story of "THE LOST CHILD"~~

(OR)

What is the identity in the story? WHAT IS MY NAME?

13. Answer either "A" OR "B" of the following.

2X4=8M

A. (i) Shylock (ii) Portia

(OR)

B. (i) Antonio (ii) Bassano



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2018-2019

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No other change in

Semester III - General English.

Unit I Prose

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P.S. Singh

20/6/18

Chairperson

BOS, English

Department of English

K.V.R. Govt. College for Women (Autonomous)
KURNOOL

K.V. GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Established in 1958 under G.O.Ms.No.197 Edn. Dt.27-01-1958

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2018-2019



KURNOOL

BOARD OF STUDIES MEETING

DEPARTMENT OF ENGLISH

20.6.2018

MEMBERS OF BOARD OF STUDIES

S.NO	Name	Designation	Signature
01	Smt.P.Subbarajamma, Lecturer in English K.V.R.Govt. College (W), Kurnool (A)	Chairperson	P.S. Rajya 20/6/18
02	Prof. M.Narendra S.V.University, Tirupati	University Nominee	M. Narendra 20.6.18
03	Dr.S.Mahaboob Basha, Associate Prof. Osmania College, Kurnool (A)	Subject Expert	Dr. S. Mahaboob Basha 20/6/18
04	Dr.E.V.Bhaskar Reddy, Lecturer in English Sri Ramakrishna Degree College, Nandyal	Subject Expert	Dr. E. V. Bhaskar Reddy 20.6.18
05	Dr. M.Farida Begum, Asst. Prof in English K.V.R.Govt. College(W), Kurnool (A)	Member	M. Farida 20/6/18
06	Sri.S.Panduranga Reddy, Lecturer in English K.V.R. govt. College (W), Kurnool (A)	Educationalist	S.P. Reddy 20/6/18
07	Smt.Rama Devi, J.L in Chemistry Govt. Junior College For Girls, Kurnool	Alunae	R. Rama Devi 20/6/18
08	Sri.g.Viswanath yadav, Manager, Praise Group. Kurnool	Industrialist	G. Viswanath 20/6/18
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10	Kum.Shaki- Solomite II B.A.A.E	Student Representative	S. Solomite 20/6/18

K.V.R. GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS) KURNOOL
I B.A. ADVANCED ENGLISH SYLLABUS
2018-2019

Part II , Semester I Paper –I

Unit –I

History of English Literature : Old English and Middle English Periods.

Unit II

Philology

History and development of English language

(Latin , Greek, French influences , Native resources and
Other influences)

Unit III

Literary forms and terms

Ballad, epic, romance, ode, elegy, pastoral elegy, sonnet,
Mystery/miracle plays, Morality play, Metaphysical conceit

Unit IV

Poetry

John Donne: Death , be not Proud

William Shakespeare- All the World is a Stage

Unit V

Prose

Francis Bacon : Of Studies

Recommended Reference books

1. History of English Literature by W.J.Long
2. A Critical History of English literature by David Daiches (published by Supernova)
3. The Cambridge History of English Literature by Ward and Waller (published by Kessinger)
4. A Glossary of Literary terms by M.H. Abrams (published by Cengage)
5. The Penguin Dictionary of Literary Terms and Literary Theory by J.A. Cuddon (published by Penguin)



KVR GOVT. COLLEGE FOR WOMEN (A) KURNOOL

Advanced English Semester II 2018-2019 SYLLABUS

Paper II An Introduction to English Literature II

- Unit – I History of English Literature : Renaissance(Elizabethan and Jacobean
15th & 16th Century)
- Unit-II Literary Forms and Terms : Simile, metaphor, personification, alliteration,
Apostrophe, hyperbole, allegory, allusion, anti-climax,
Irony, blank-verse, tragedy, comedy, chronicle play ,
Masque, comedy of humours, farce.
- Unit – III Drama : William Shakespeare “Twelfth Night “
- Unit- IV poetry : Thomas Gray: “ Elegy written in a Country Churchyard “
- Unit - V Prose : John Milton Extract from book IX -
Fall of Adam and Eve

Recommended Reference Books:

- 1 .A History of English Literature by William J. Long
 2. A Critical History of English Literature by David Daiches (Published by Supernova)
 3. The Cambridge History of English Literature by Ward and Waller (published by Penguin)
 4. A Glossary of Literary Terms and Literary AND Literary Theory by J.A.Cuddon
(Published by Penguin)
-

TELUGU



Department Of Telugu
Syllabus and Model Question Papers
Ist Year
Advance Telugu
2018 - 2019
BOS Meeting

The image displays a 10x20 grid of squares. The patterns are as follows:

- Row 1:** 16 squares, each with a single vertical line on the left side.
- Row 2:** 16 squares, each with a single vertical line on the right side.
- Row 3:** 14 squares, each with a single vertical line on the left side.
- Row 4:** 24 squares, each with a single vertical line on the left side.
- Row 5:** 24 squares, each with a single vertical line on the right side.
- Row 6:** 12 squares, each with a single vertical line on the left side.
- Row 7:** 18 squares, each with a single vertical line on the left side.
- Row 8:** 24 squares, each with a single vertical line on the left side.
- Row 9:** 24 squares, each with a single vertical line on the left side.
- Row 10:** 24 squares, each with a single vertical line on the left side.

[illegible]

K.V.R.Govt Degree College For Women (A). Kurnool.
Advance Telugu Ist Year
II Semester II Internal.
November - 2018

A 10x10 grid of squares. The squares are arranged in 10 rows and 10 columns. The squares are filled with a dark red color, forming a pattern that resembles a stylized letter 'E' or a comb. The pattern consists of a solid vertical bar of red squares on the left side, and a series of horizontal bars of red squares extending from the vertical bar at various intervals. The horizontal bars are of varying lengths, with the longest bar spanning the entire width of the grid at the bottom. The overall effect is a dense, geometric pattern of red squares on a white background.

A 20x20 grid of squares. The grid contains a sparse pattern of filled squares. The filled squares are distributed across the grid, with some rows having more filled squares than others. The filled squares are colored black, white, or gray. The pattern is not regular and appears to be a random or semi-random distribution.

URUDU



KVR GOVERNMENT COLLEGE FOR WOMEN, KURNOOL
(AUTONOMOUS)

Department of Urdu

Second Language Urdu (CBCS)

Reslution of the syllabus - 2018-2019

The members of the Board of Studies met in the department of Urdu on 28.06.2018 at 10.00 a.m. under the chairmanship of Dr.Irfana Begum, i/c of the Department of Urdu. The BOS discussed the proposals on the revision and modification of curriculum of I Year UG with CBCS for B.A, B.Com &B.Sc Second Language Urdu under APCHE 2018-19

The prescribed syllabus is modified under the flexibility of autonomy for B.A,
B.Com & B.Sc. Second Language Urdu.

- a) The Total Syllabus of the body have in Ten(10) Units
- b) Five Units have in Semester I & Five Units have in Semester II
- c) For Semester I ,the Poetry Part has already some New Gazals and Nazams 'is substituted with the place of Old Gazals and Nazms of Old Gazals and Nazms of the same Poet asto enable the students with the knowledge of Poetry.
- d) In Semester II Unit-V Inshaiya " Padiye gar bimar" is omitted and replace Inshaiya "wollu" by khawjahasannizami. That is added with a view to improving their speaking and thinking skills replacewith Inshaiya "Padiye gar bimar" by Mustaq Ahmed Yousufi.

KVR Govt. College (w) Autonomous Kurnool.

Syllabus for (B.A./ B.Com. / B.Sc.) U.G. 2018-2019

Under Common Core Scheme in Urdu – CBCS

As per Andhra Pradesh State Council of Higher Education

Second Language – Urdu Paper – I

SEMESTER – I

POETRY

Prescribed book: MUNTAKHAB ADAB – I

UNIT – I

1. GHAZAL

MEER – Ulti ho gayeen sab tadbeeren

2. NAZM

IQBAL – NayaShivalah

UNIT – II

1. GHAZAL

GHALIB – Ye nathihamarikhismat

2. NAZM

Akbar Ilahabadi – Nasihat-e-Aqlaaqi

UNIT – III

1. GHAZAL

HALI – Uskejate hi ye kya ho gayeegharkisurat

2. NAZM

FAIZ – Mujhsepehlisimuhabbatmerimehboob

UNIT – IV

1. GHAZAL

YASEER KURNULI– Rafeeq-o-hamnafas

2. NAZM

AKHTARUL IMAAN – Khabr

UNIT – V

1. GHAZAL

RAHI FIDAYI– Apnitareeqkeraqimkeliye

2. NAZM

IQBAL QUSRO – Izn-e-Aam

KVR Govt. College (w) Autonomous Kurnool.
Syllabus for (B.A./ B.Com. / B.Sc.) U.G. 2018-2019
Under Common Core Scheme in Urdu – CBCS
As per Andhra Pradesh State Council of Higher Education
Second Language – Urdu Paper – II

SEMESTER - II

PROSE

UNIT – I Mazmoon ‘Behas-o-Takrar’ - Sir Syed

UNIT – II Afsana ‘Toba Tek Singh’ - Manto

UNIT – III Drama ‘GudkiMakhiyan’ - KareemRumani

**UNIT – IV Muraqqa ‘Ustad-e-MuhatarramZore Sahib’ –
SulaimanAtharJaweed**

UNIT – V Inshaiya ‘Wollu’ - (Change)

KhawjaHasanNizami



KVR GOVT COLLEGE WOMEN (AUTONOMOUS) KURNOOL

First year (B.A./ B.Com. / B.Sc.) Paper - I CBCS

Second Language Urdu 2018 - 2019

SEMESTER - I : POETRY

Time: 3 Hours

MODEL QUESTION PAPER

Max.Marks : 60

PART -- A

5 X 4 = 20

نوٹ : درج ذیل میں سے کسی پانچ (5) اشعار کی تشریح بحوالہ متن کیجئے۔

1. الٹی ہو گئی سب تدبیریں کچھ نہ دوانے کا کام کیا دیکھا اس بیاری دل نے آخر کام تمام کیا
2. عہد جوانی رورو کا نا پیری میں لیں آنکھیں موند یعنی رات بہت تھے جاگے صبح ہوئی آرام کیا
3. اس کے جاتے ہی یہ کیا ہو گئی گھر کی صورت نہ وہ دیوار کی صورت ہے نہ در کی صورت
4. کس سے بیان وفا باندھ رہی ہے بلبل کل نہ پہچان سکے گی گل تر کی صورت
5. پتھر کی مورتوں کو سمجھا ہے تو خدا ہے خاک وطن کا مجھ کو ہر ذرہ دیوتا ہے
6. میں نے سمجھا تھا کہ تو ہے تو درخشاں ہے حیات تیرا غم ہے تو غم دہر کا جھگڑا کیا ہے
7. جہل کا درک بھی ہونا ہے ضرور علم کافی نہیں عالم کے لئے
8. جلا کہ برق میرے نشین کے چارنگوں کو دماغ برق تہہ آسمان نہیں ملتا

PART -- B

5 x 8 = 40

نوٹ : تمام سوالوں کے جواب لازمی ہیں۔ ہر سوال کے مساوی نشانات ہیں۔

9. غالب کے کلام کی امتیازی خصوصیات بیان کیجئے۔ (یا)
- میر تقی میر کی شعری خصوصیات کا اجمالی جائزہ لیجئے۔
10. اقبال خسرو کی نظم ”اذن عام“ کا خلاصہ اپنے الفاظ میں لکھئے۔ (یا)
- علامہ اقبال نے اپنی نظم ”نیا سوال“ میں کن خیالات کا اظہار کیا ہے۔
11. نظم ”مجھ سے پہلی سی محبت۔۔۔“ کا خلاصہ اپنے الفاظ میں لکھئے۔ (یا)
- فیض احمد فیض کی شاعری کے فنی محاسن پر روشنی ڈالئے۔
12. علامہ نسیم کرٹولی کی شاعری پر روشنی ڈالئے۔ (یا)
- اختر الایمان کی نظم ”قبر“ کا تنقیدی جائزہ لیجئے۔
13. ڈاکٹر راہی فدائی کی شاعری کا اجمالی جائزہ لیجئے۔ (یا)
- حالی کی شاعرانہ عظمت کا احاطہ کیجئے۔

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KVR GOVERNMENT COLLEGE FOR WOMEN, KURNOOL

(AUTONOMOUS)

Department of Urdu

Advance Urdu (CBCS)

Resolution of the Syllabus - 2018-2019

The members of the Board of Studies met in the department of Urdu on **28.06.2018** at 11.30 a.m. under the chairmanship of Dr.Irfana Begum, i/c of the Department of Urdu. The BOS discussed the proposals on the revision and modification of curriculum of I Year UG with CBCS for Advance Urdu under APCHE 2018-19

The prescribed syllabus is modify the flexibility of autonomy of Advance Urdu 2018-19.

- a) The Total Syllabus of the body have in Ten(10) Units
- b) Five Units have in Semester I & Five Units have in Semester II
- c) For Semester I, the Prose Part Fiction have Some changes in Afsanvi Adab and it is substituted with the place of old Afsanvi Adab afsana "Mom ki Mariyam" by Jeelanibanois omitted and replace "Jab Hum na Honge" by Basheeshar Pradeep to introduce one more writer and view to improving their speaking and writing skills of the same book 'Urdu Afsane' edited by Razia Sajjad Zaheer as to enable the students with the knowledge of Fiction.



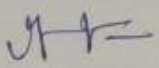
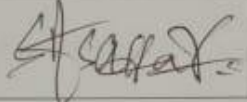
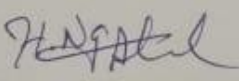
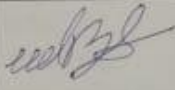
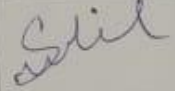
KVR GOVT. COLLEGE (W), KURNOOL. AUTONOMOUS (A Grade)

DEPARTMENT OF URDU

The BOS of Advance Urdu meeting is held on 28-06-2018 at 11.30 A.M at the Department of Urdu of KVR Govt. College (w) Kurnool.

The following members are attended .

BOARD OF STUDIES MEMBERS

S. No	Category	Name & Designation	Acted as	Signature
1.	In Charge Of Dept	Dr. IRFANA BEGUM	Chairperson	
2.	University Nominee	Prof. ABDUS SATTAR SAHEB	University Nominee	
3.	Faculty	H. NAZEER AHMED	Member	
4.	Subject Expert	S. MD. ZAHURULLAH	Member	
5.	Subject Expert	MD. FAIZULLAH	Member	
6.	Retd. Lecturer	Dr. SYED WAHEED KOUSER	Educationist	
7.	Urdu Lecturer	SYEDA BILKHIS SABIHA	Alumni	
8.	Student	K.SHAISTA NAAZ II B.A(U.M)	Class Representative	K. Shaista Naaz
9.	Student	G. AYESHA III B.A(U.M)	Class Representative	G. Ayesha Begum

KVR Govt. College (w) Autonomous Kurnool.

Syllabus for B.A. Urdu CBCS 2018-19

As per Andhra Pradesh State Council of Higher Education

First year Optional Urdu Paper - 1

SEMESTER - I

URDU PROSE

Afsanavi Adab aur Drama

UNIT – I Novel - Taaruf aur Irteqa

UNIT – II Novel 'Nirmala' by Premchand

UNIT – III Afsana - Taaruf aur Irteqa

UNIT – IV Urdu Afsane edited by Raziya Sajjad Zaheer.

The following short stories only:

- 1. 'Woh' by Balraj Menra**
 - 2. 'Computer Isq' by Joginder Pal**
 - 3. 'Lal aur Peela' by K.A. Abbas**
 - 4. 'Jab Hum Na Honge' by Basheeshar Pradeep (Change)**
 - 5. 'Allah de Banda le' by Raziya Sajjad Zaheer**
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UNIT – V

Drama ‘DarwazeKhol Do’ by KrishanChander

KVR Govt. College (w) Autonomous Kurnool.

Syllabus for B.A. Urdu CBCS 2018-19

As per Andhra Pradesh State Council of Higher Education

First year Optional Urdu Paper - II

SEMESTER - II

URDU PROSE

GhairAfsanaviAdab

UNIT – I

**SAFARNAMA - ‘Bullet Train meinkabhinabaitho’
byMujtabaHussain**

UNIT – II

KHAKA - TaarufaurIrteqa

UNIT – III

Khaka - ‘ Dr.AbdulHaqmarhoom’ by Rasheed Ahmed Siddiqui.

UNIT – IV

INSHAIYA - TaarufaurIrteqa

UNIT – V

**Inshaiya – ‘JheengarkaJanaza’ by
KhwajaHasanNizami**





KVR GOVT COLLEGE WOMEN (AUTONOMOUS) KURNOOL

B.A. First year Optional Urdu Paper - I CBCS

SEMESTER - I 2018-19

URDU PROSE (Afsanvi Adab aur Drama)

Time: 3 Hours

MODEL QUESTION PAPER

Max.Marks : 60

PART -- A

نوٹ: درج ذیل سوالوں میں سے صرف پانچ (5) کے جوابات دیجیے۔ 5 X 4 = 20

1. ناول کے اجزائے ترکیبی کیا ہیں گنوائے؟
2. طوطا رام کے کردار پر روشنی ڈالئے؟
3. کرشن چندر کی شخصیت پر نوٹ لکھئے؟
4. افسانہ ”وہ“ کا تنقیدی جائزہ لیجئے؟
5. ناول ”نرملہ“ میں نرملہ کے کردار کو اپنے الفاظ میں لکھئے؟
6. بشیش پر دہپکا افسانہ ”جب ہم نہ ہونگے“ کے فن پر روشنی ڈالئے؟
7. ڈرامہ کس کو کہتے ہیں اپنی معلومات قلم بند کیجئے؟
8. رضیہ سجاد ظہیر کا تعارف اپنے الفاظ میں لکھو

PART -- B

نوٹ: تمام سوالوں کے جواب لازمی ہیں۔ ہر سوال کے مساوی نشانات ہیں۔ 5 X 8 = 40

9. اردو ناول کے آغاز و ارتقاء پر اپنی معلومات قلم بند کیجئے؟ (یا)
10. ناول ”نرملہ“ کی سماجی اہمیت کا جائزہ لیجئے؟
11. اردو میں افسانوی ادب کی اہمیت و مقبولیت کی وضاحت کیجئے (یا)
12. افسانہ ”لال اور پیلا“ کے فنی محاسن کی وضاحت کیجئے؟
13. ڈرامہ ”دروازے کھول دو“ کی قومی یکجہتی پر روشنی ڈالئے؟ (یا)
14. کرشن چندر کی ڈرامہ نگاری پر روشنی ڈالئے؟
15. رضیہ سجاد ظہیر کے کوئی ایک افسانے کا خلاصہ اپنے الفاظ میں لکھو (یا)
16. جوگیندر پال کے افسانے کا تنقیدی جائزہ لیجئے؟
17. ڈرامہ ”دروازے کھول دو“ کی قومی یکجہتی پر روشنی ڈالئے؟ (یا)
18. ڈرامہ ”دروازے کھول دو“ کے کسی ایک کردار کا تفصیلی جائزہ لیجئے؟

KVR GOVT. COLLEGE WOMEN (AUTONOMOUS) KURNOOL

B.A. First year Optional Urdu CBCS

SEMESTER - II : Paper - II 2018-2019

URDU PROSE (Ghair Afsanvi Adab)

Time: 3 Hours

MODEL QUESTION PAPER

Max.Marks : 60

PART -- A

نوٹ : درج ذیل سوالوں میں سے صرف پانچ (5) کے جوابات دیجیے۔ 5 X 4 = 20

1. تجنی حسین کا تعارف اپنے الفاظ میں لکھئے؟
2. ڈاکٹر عبدالحق مرحوم کی زندگی کا کوئی ایک واقعہ لکھئے؟
3. خواجہ حسن نظامی کی حالات زندگی پر روشنی ڈالئے؟
4. خاکہ سے کیا مراد ہے۔ سمجھائیے۔
5. سفر نامہ کسے کہتے ہیں۔ لکھئے۔
6. رشید احمد صدیقی کی حالات زندگی پر روشنی ڈالئے۔
7. کسی ایک انشائیہ نگار پر نوٹ لکھئے؟
8. خاکہ و مرقع کا فرق کیا ہے۔ بتائیے۔

PART -- B

نوٹ : تمام سوالوں کے جواب لازمی ہیں۔ ہر سوال کے مساوی نشانات ہیں۔ 5 X 8 = 40

9. خاکہ نگاری کے آغاز و ارتقاء پر اپنی معلومات قلمبند کیجئے؟ (یا) خاکہ کے اجزائے ترکیبی پر نوٹ لکھئے؟
10. رشید احمد صدیقی کی خاکہ نگاری کا مفصل جائزہ لیجئے؟ (یا) اردو میں انشائیہ کی اہمیت و مقبولیت کی وضاحت کیجئے؟
11. اردو ادب میں سفر نامہ کی اہمیت و افادیت کا مفصل جائزہ لیجئے؟ (یا) سفر نامہ ”بلت ٹرین میں کبھی نہ بیٹھو“ کی خصوصیات کا جائزہ لیجئے؟
12. انشائیہ ”جھینگڑ کا جنازہ“ کے فنی محاسن کی وضاحت کیجئے؟ (یا) خواجہ حسن نظامی کی انشائیہ نگاری کا جائزہ لیجئے۔
13. غیر افسانوی ادب پر اپنی معلومات قلم بند کیجئے؟ (یا) ڈاکٹر عبدالحق مرحوم کے خاکہ کا تفصیلی جائزہ لیجئے۔

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HINDI



KVR GOVT DEGREE COLLEGE FOR WOMEN (A), KURNOOL

IIIrd semester syllabus

(For B.A, B.com & B.Sc.)

DEPARTMENT of HINDI 2018-19

Unit-I कबीर

प्राचीन कविता)

1. कबीरदास – साखी
2. सूरदास का बाल वर्णन

साधु चरित्र (Sant)

3. मातृभूमि
4. तोड़ती पत्थर
5. गीतफरोश

Unit-II साहित्य (History of Hindi literature) :

1. भक्तिकाल
 - A. ज्ञानाश्रयीशाखा - कबीर
 - B. प्रेमाश्रयीशाखा - जायसी

Unit-III साहित्यिक (Literary essays):

1. समाचार पत्र
-

2. बेकार की समस्या
3. कंप्यूटर
4. पर्यावरण और प्रदूषण
5. साहित्य और समाज

Unit-IV अनुवाद (translation)

अनुवादित पाठ्यों में

Unit-V प्रयोग (प्रयोग हिंदी)

वाचक (Comprehension)

BOTANY



K.V.R.Govt. COLLEGE FOR WOMEN (A), KURNOOL
(Under the Jurisdiction of Rayalaseema University)
Accredited with "A" Grade by NAAC



BOARD OF STUDIES MEETING

2018-19

Subject: BOTANY

Members of the Board of studies in Botany discussed in detail the curriculum, scheme of instruction, evaluation and credits to be allotted, and passed the following resolutions applicable to the academic year 2019-20.

Resolution:1

It is unanimously resolved that there shall be nearly 20% change in syllabus and in evaluation. There shall be evaluated for 60 marks and 40 marks for internal evaluation.

Semester	Paper	Title of the paper	Contact hours /week	Max. marks: 100		
				Credits allotted	Internal assessment	Sem End Exam
III	III	Plant Taxonomy and Embryology	4	4	40	60
IV	IV	Plant physiology & Metabolism	4	4	40	60
III	Practical paper III	Plant Taxonomy, Embryology	2	-	-	50
IV	Practical Paper IV	Plant physiology & Metabolism	2	-	-	50



K.V.R. Govt. COLLEGE FOR WOMEN {AUTONOMOUS}, KURNOOL

**II B.Sc – SEMESTER – III: BOTANY THEORY PAPER – III
(Paper – III: Plant Taxonomy and Embryology)**

UNIT – I: INTRODUCTION TO PLANT TAXONOMY (12hrs)

1. Fundamental components of taxonomy (identification, nomenclature, and classification)
2. Taxonomic resources: Herbarium – methodology and important herbaria in world (RBG, KEW) and India (BSI & Calcutta), Botanical gardens.
3. Botanical Nomenclature – Principles and rules of ICBN (ranks and names: Principle of priority, Binomial system; type method, author citation and valid publication)

UNIT – II: CLASSIFICATION (12hrs)

1. Types of classification – Artificial, Natural and Phylogenetic.
2. Bentham & Hooker's system of classification – Merits and demerits.
3. Engler & Prantle's system of classification – Merits and limitations.

UNIT – III: Taxonomy of Angiosperms -I (12hrs)

1. Systematic study and economic importance of the following families: Annonaceae, Rutaceae, caesalpinaceae, Cucurbitaceae, and Apiaceae.
-

UNIT-IV: TAXONOMY OF ANGIOSPERMS-II**(12hrs)**

2. Systematic study and economic importance of the following families: Asteraceae, Asclepiadaceae, Lamiaceae, Euphorbiaceae & Poaceae.

UNIT –IV: EMBRYOLOGY - I**(12hrs)**

1. Anther structure, Microsporogenesis and development of male gametophyte
2. Ovule structure and types: Megasporogenesis, development of Monosporic, Bisporic & Tetrasporic types (Peperomia, Drusa and Adoxa) of embryo sacs.
3. Fertilization(out line), Endosperm Types.
4. Development of Dicot and Monocot embryos, Polyembryony.

Suggested activity: Collection of locally available plants of medicinal importance, observing pollen grains in honey, Aero palynology-collection of pollen from air using glycerin strips in different seasons.

Books for Reference:

1. Porter, C.L. (): Taxonomy of flowering Plants, Eurasia Publishing House, New Delhi.
1. Lawrence, G.H.M. (1953): Taxonomy of Vascular Plants, Oxford & IBH Publishers, New Delhi, Calcutta.
3. Jefferey, C.(1968) : An Introduction to Plant Taxonomy J.A. Churchill, London.
4. Mathur, R.C.(1970) : Systematic Botany (Angiosperms) Agra Book Stores- Lucknow, Ajmer, Allahabad, Delhi.
5. Maheswari, P(1963) :Recent Advances in the Embryology of Angiosperms(Ed.,) International Society of Plant Morphologists- University of Delhi.
6. Swamy. B.G.L. & Krishnamoorthy. K.V.(1980):From flower to fruit Tata McGraw Hill Publishing Co., Ltd., New Delhi.
1. Maheswari, P.(1985):An Introduction to the Embryology of Angiosperms

Tata McGraw Hill Publishing Co.,Ltd., New Delhi.

8. Bhojwani, S.S. & Bhatnagar, S.P. (2000) : The Embryology of Angiosperms (4th Edition) Vikas Publishing House(P)Ltd., UBS Publisher's Distributors, New Delhi.

KVR GOVT. COLLEGE FOR WOMEN(A), KURNOOL

II B.SC; SEMESTER-III; SUBJECT- BOTANY

PAPER III- PLANT TAXONOMY & EMBRYOLOGY

Model Question Paper

Time: 3hours

Max. Marks:60

***Draw neat labeled diagrams wherever necessary.**

SECTION-A

Answer any FIVE of the following questions.

5x4M = 20M

1. Botanical gardens
 2. Types of classifications
 3. Flower in Annonaceae
-

4. Economic importance of Lamiaceae
5. Spikelet in Poaceae
6. Tapetum
7. Ruminant Endosperm
8. Types of Ovules

SECTION-B

Answer all the questions.

5x8M = 40M

9. A. Write about herbarium methodology

OR

B. Write an essay on ICBN

10. A. Write an essay on Bentham & Hookers system of classification

OR

B. Write an essay on Engler & Prantl system of classification

11. A. Describe the vegetative & floral characters of Rutaceae

OR

B. Describe the vegetative & floral characters of Cucurbitaceae

12. A. Describe the vegetative & floral characters of Asteraceae

OR

B. Describe the vegetative & floral characters of Asclepiadaceae

13. A. Write about microsporogenesis & development of male gametophyte

OR

B. Describe the development of dicot embryo

Internal marks 40 divided as follows:

Internal Assessment examination 20 MARKS 2. Seminar 5 Marks 3. Assignment,
5 Marks, Attendance 5 Marks and Quik test 5 Marks.

II B.Sc BOTANY - SEMESTER-III

Paper-III: PRACTICAL

Plant Taxonomy and Embryology

Total hours of laboratory Exercises 30hrs @ 2 per week

Suggested Laboratory Exercises:

1. Systematic study of locally available plants belonging to the families prescribed in theory syllabus.
-

2. Demonstration of herbarium techniques.
3. Structure of pollen grains using whole mounts (*Hibiscus*, *Acacia*, Grass).
4. Demonstration of Pollen viability test using *in- vitro* germination (*Catharanthus*).
5. Study of ovule types and developmental stages of embryo sac using permanent slides /Photographs.
6. Structure of endosperm (nuclear and cellular); Developmental stages of dicot and monocot Embryos using permanent slides / Photographs
7. Isolation and mounting of embryo (using *Symopsis* / *Senna* / *Crotalaria*)
8. Field visits .
9. Study of local flora and submission of Field Note Book

K.V.R. Govt. COLLEGE FOR WOMEN {AUTONOMOUS}, KURNOOL

II B.Sc., BOTANY-SEMESTER- IV

PRACTICAL MODEL PAPER III PLANT TAXONOMY EMBRYOLOGY

Time:3 hours

Max.marks: 50

1. Describe the given Plant specimens (**A**) in technical terms. Draw neat labeled diagrams of twig with inflorescence. L.S. of flower, T.S of ovary and floral diagrams. Give floral formula and identify the family. (Description- vegetative- 3marks, floral- 6marks; diagrams-4marks, Identification 2mark)

15 marks

2. Derive the given plant specimen **B** and **C** upto family level

2x5=10

3. Identification of spotters –**DEF**

3 x 5 = 15

4. Herbarium and Field notes

03 marks

5. Record

07 marks

K.V.R. Govt. COLLEGE FOR WOMEN {AUTONOMOUS}, KURNOOL

III B.Sc., SEMESTER: V

Paper: IV –

PLANT PHYSIOLOGY AND METABOLIS

UNIT – I: Plant – Water relations

(12 hrs)

1. Physical properties of water, in relation to plant life.
2. Diffusion-imbibition and osmosis, concept & components of Water potential.
3. Absorption and transport of water and ascent of sap.
4. Transpiration –Definition, types of transpiration, structure and opening and closing
Mechanism of stomata and Anti transpirants

UNIT –II: Mineral nutrition & Enzymes

(12hrs)

1. Mineral Nutrition: Essential elements (macro and micronutrients) and their role in plant metabolism, deficiency symptoms.
2. Mineral ion uptake (active and passive transport).
3. Enzymes: General characteristics, mechanism of enzyme action and factors regulating enzyme action.

UNIT –III: PHOTOSYNTHESIS

(12 hrs)

1. Photosynthesis: Photosynthetic pigments, photosynthetic light reactions, photo-phosphorylation, carbon assimilation pathways: C₃, C₄, and CAM and their differences.
2. Photorespiration and its significance.
3. Translocation of organic solutes: mechanism of phloem transport, source-sink relationships.

UNIT – IV: PLANT METABOLISM

(12 hrs)

1. Respiration: Glycolysis, anaerobic respiration, TCA cycle, electron transport system.
Mechanism of oxidative phosphorylation.
2. Nitrogen metabolism- biological nitrogen fixation in *Rhizobium*, outlines of protein Synthesis (transcription and translation).
3. Lipid Metabolism: Types of lipids, Beta-oxidation.

UNIT –V: GROWTH AND DEVELOPMENT

(12hrs)

1. Growth and development: definition, phases and kinetics of growth.
 2. Physiological effects of phytohormones - Auxins, Gibberellins, Cytokinins, ABA, Ethylene and Brassinosteroids.
 3. Physiology of flowering -photoperiodism, role of phytochrome in flowering; Vernalization.
 4. Applications of growth regulators in Agriculture and Horticulture.
-

Suggested activity: Seminars, Quiz, Debate, Question and Answer sessions, observing animations of protein biosynthesis in you tube.

Books for Reference:

1. Steward. F.C (1964): Plants at Work (A summary of Plant Physiology) Addison-Wesley Publishing Co., Inc. Reading, Massachusetts, Palo alto, London.
 2. Devlin, R.M. (1969) : Plant Physiology, Holt, Rinehart & Winston & Affiliated East West Press (P) Ltd., New Delhi .
 3. Noggle, R.& Fritz (1989):Introductory Plant Physiology Prentice Hall of India.
 4. Lawlor.D.W. (1989): Photosynthesis, metabolism, Control & Physiology ELBS/Longmans-London.
 5. Mayer, Anderson & Bonning(1965): Introduction to Plant Physiology D.Van Nostrand . Publishing Co., N.Y.
 6. Mukherjee, S. A.K. Ghosh(1998) Plant Physiology ,Tata McGraw Hill Publishers(P) Ltd., New Delhi.
 7. Salisbury, F.B & C.W. Ross (1999): Plant Physiology CBS Publishers and Printers, New Delhi.
 2. Plummer, D.(1989) Biochemistry–the Chemistry of life ,McGraw Hill Book Co., London, N.Y. New Delhi, Paris, Singapore, Tokyo.
 9. Day, P.M.& Harborne, J.B. (Eds.,) (2000): Plant Biochemistry. . Harcourt Asia (P) Ltd., India & Academic Press, Singapore.
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K.V.R. Govt. COLLEGE FOR WOMEN {AUTONOMOUS}, KURNOOL

II B.Sc., SEMESTER: IV

Paper: IV– PLANT PHYSIOLOGY & METABOLISM

Model Question Paper

Time: 3 hours

Max. marks: 75

Draw labeled diagrams wherever necessary

Section - A

Answer any FIVE of the following questions

5x4=20

1. Anti transpirants
2. Imbibition
3. Mechanism of enzyme action
4. Anaerobic respiration
5. Hill reaction
6. Photoperiodism
7. Brassinosteroids
8. Senescence

Section – B

Answer ALL of the following questions

5 x 8 = 40M

9. A. Write an essay on transpiration

OR

B. Write a brief discussion about Ascent of Sap

10. A. C₄ cycle

OR

B. Write about translocation of organic solutes

11. A. Glycolysis

OR

B. β -Oxidation

12. A. Write about protein synthesis

Or

B. Write about physiological effect of Auxins

13. A. Write about role of phytochrome in physiology

Or

B. Write about physiology of senescence and Ageing

Internal marks 40 divided as follows:

**Internal Assessment examination 20 MARKS 2. Seminar 5 Marks 3. Assignment, 5Marks,
Attendance 5 Marks and Quik test 5 Marks.**

II B. Sc BOTANY SEMESTRE- IV, Paper–IV: PRACTICAL SYLLABUS

PAPER-IV: Plant Physiology and Metabolism

Total hours of laboratory Exercises 30 hrs @ 2 per week

Suggested Laboratory Exercises:

1. Osmosis – by potato osmoscope experiment
 2. Determination of osmotic potential of plant cell sap by plasmolytic method using leaves of *Rhoeo* / *Tradescantia*.
 3. Structure of stomata (dicot & monocot)
 4. Determination of rate of transpiration using cobalt chloride method.
 5. Demonstration of transpiration by Ganongs' photometer
 6. Demonstration of ascent of sap/Transpiration pull.
 6. Effect of Temperature on membrane permeability by colorimetric method.
 7. Study of mineral deficiency symptoms using plant material/photographs.
 8. Separation of chloroplast pigments using paper chromatography technique.
 9. Rate of photosynthesis under varying CO_2 concentrations.
 10. Effect of light intensity on oxygen evolution in photosynthesis using Wilmott' bubbler.
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SKILL ENHANCEMENT COURSE
MUSHROOM CULTURE TECHNOLOGY
SEMESTER-IV; CREDITS-2
LECTURES:30

MARKS: External evaluation: 30M

Internal evaluation:20M

SYLLABUS

UNIT: I- Introduction

7hrs

1. Introduction, history, Types of Mushrooms
2. Mushrooms available in India- *Volvariella volvacea*, *Pleurotus citrinopileatus*, *Agaricus bisporus*,
Mushroom Research Centres
3. Cost-benefit ratio: Market in India and abroad, export value

UNIT: II- Cultivation Technology

15hrs

1. Cultivation Technology: Infrastructure, substrates and materials
2. Process of cultivation- Medium sterilization, Preparation of spawn, multiplication; Mushroom bed preparation(paddy straw, sugar cane trash, maize straw, banana leaves), spawning and harvesting; Factors affecting mushroom bed preparation.
3. Composting technology in mushroom production.

UNIT: III- Storage & Utilization

8hrs

1. Storage: Short term and Long term storage
 2. Nutritional and medicinal value of mushrooms
 3. Food Preparation: Types of food prepared from mushrooms
-

SKILL ENHANCEMENT COURSE
MUSHROOM CULTURE TECHNOLOGY
SEMESTER-IV

Time: 1Hr.

Max. Marks:30M

(Instruction to Q.P.Setters: Set **atleast ONE** question from each unit with internal choice)

MODEL QUESTION PAPER

Answer all the questions

3x10M= 30M

1. Write an essay on mushrooms available in India

Or

2. a) Poisonous mushrooms b) Mushroom Research Centres

3. Write an essay on spawn production

Or

4. a) Materials used in mushroom cultivation b) Factors affecting Mushroom bed preparation

5. Write a detailed account on Mushroom storage

Or

6. a) Nutritional value of mushrooms b) Medicinal value of mushrooms
-

II B. Sc – SEMESTER- IV, BOTANY PRACTICAL MODEL PAPER
PAPER- IV - Plant Physiology and Metabolism

1. Perform the Experiments A & B. Give the aim, principle, procedure and observation. Tabulate the results if any. Draw labeled diagram. 2 x 15 = 30 marks
2. Give the protocol of the experiments C & D 2 x 5 = 10 marks
3. Record & Viva

10 marks

50 marks

DEPARTMENT OF BOTANY - BOARD OF STUDIES 2018-19
COURSE CONTENT STRUCTURE

Semester	Paper	Title of paper	Credits	Contact hrs per week	Maximum Marks: 100	
					Continuous Internal Evaluation	Sem End Examination
Semester I	Paper I	Microbial Diversity, Algae, Fungi and Lichens	4	4	40	60
Semester II	Paper II	Bryophyta, Pteridophyta, Gymnosperms and Plant Anatomy	4	4	40	60
Semester I	Practical Paper I		2	3	-	50
Semester II	Practical Paper II		2	3	-	50
III	III	Plant Taxonomy and Embryology	4	4	40	60
IV	IV	Plant physiology & Metabolism	4	4	40	60
IV	Skill Enhancement course	Mushroom culture technology	2	2	20	30
III	Practical paper III	Plant Taxonomy, Embryology	2	3	-	50

IV	Practical Paper IV	Plant physiology & Metabolism	2	3	-	50
V	Paper V	Cell Biology, Genetics & Plant breeding	4	3	40	60
	Paper VI	Plant Ecology, Phytogeography & Biodiversity	4	3	40	60
VI	VII	Plant Tissue culture and Plant Biotechnology	4	3	40	60
	Practical V	Cell Biology, Genetics & Plant breeding	2	3	-	50
	Practical VI	Plant Ecology, Phytogeography & Biodiversity	2	3		50
	Practical VII	Plant Tissue culture and Plant Biotechnology	2	3		50
VI	VIII-A	Plant Diversity and Human welfare	4	3	40	60
	VIII-B	Ethno Botany and Medicinal Botany	4	3	40	60
	VIII-c	Pharmacognosy and Phytochemistry	4	3	- 40	60
	VIII- A	Practical	2	3	-	50
	VIII-B		2	3	-	50
	VIII-C		2	3	-	50

KVR Govt. College for Women
(AUTONOMOUS)
 Re-Accredited by NAAC with Grade "A"
 KURNOOL



BOARD OF STUDIES MEETING

2018-2019

DEPARTMENT OF ZOOLOGY

06/06/2018

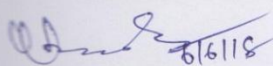
I BSc

RESOLUTIONS

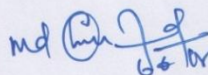
The members of BOS in Zoology met on 06-06-2018 in the department of Zoology, KVR Govt. Degree College for Women(A), Kurnool under the chairmanship of Smt P. Shajahan Begum I/C of the department of Zoology, discussed the proposals on the curriculum for the 1 year UG course and passed the following resolutions.

The following resolutions are made and passed unanimously.

1. Resolved to approve the revised syllabus in Zoology for I B.Sc., Semester-I and Semester-II as decided by the expert members and members of the Board of Studies (UG) Zoology.
2. The revised syllabus will come into effect from the academic year 2018-19 for I B.Sc.. Semester-I and Semester-II.
3. Resolved to conduct the practical examinations at the end of Semester-I,II for I B.Sc. students for 50 marks in each paper.
4. Semester- I,II Each paper carries 60 Marks.
5. Internal Assessment Examination will be for 40 Marks. There will be two Internal Assessment Examinations in each semester. (Average of two to be taken).
6. Seminar/Group discussion/Quiz/Projects/ Attendance/extracurricular activities/Viva are given the weightage of 5 Marks. Assignment is given the weightage of 5 Marks. Total Internal Assessment Marks =40.
7. Resolved to approve the syllabus (Theory Paper I,II) for the academic year 2018-19 as prescribed in the Proforma **Annexure -I & II**.
8. Resolved to approve the list of practicals for Practical - I,II for the academic year 2018-19 as prescribed in the proforma **Annexure - III**.
9. Practical scheme of valuation for Practical -II for the academic year 2018-19 in **Annexure-IV**.
10. Resolved to approve the Model Papers for I-B.Sc. Semester- I and Semester- II for the academic year 2018-19 as as prescribed in the proformas per **Annexure-V** and **Annexure VI**.
11. Justification report for the syllabus Paper- I,II(semester I,II) for the academic year 2018-19 as prescribed in the Proforma in **Annexure VII**.
12. Resolved to recommend the panel of examiners and paper setters as in **Annexure -VIII** from the academic year 2018-19.

 06/06/18

H. Khatib Ameen

md  06/06/18

The following members were present for the Board of studies meeting conducted by the dept of zoology on 06-06-2018 at 10.30 Am

SNO	Name	Signature
1.	Smt. P. shajahan Begum.	[Signature]
2.	prof. K. satyaveelu Reddy.	[Signature] 6/6/18
3.	Dr. Md. Osman Ahmed.	md [Signature] 6/6/18
4.	Sri G. Madhusudhan Rao.	C. Chelguthu
5.	Dr. C. obulapathi	G. E. P. vijaya Ruchi 6/6/18
6.	Kumar. G. E. P. vijaya Ruchi.	[Signature]
7.	Smt. V. Laxmi Kumari	M. Khalid Ahmed
8.	Md Khalid Ahmed.	U. M. Aparna
9.	V. Aparna.	C. Kalitha
10.	C. kalitha.	J. Nirmala kumari
11.	J. Nirmala kumari	

KVR Govt. College for Women (Autonomous)
Re-Accredited by NAAC with 'A' Grade



Kurnool
Board of Studies Meeting
DEPARTMENT OF ZOOLOGY
(w.e.f. 2018-19)

Minutes of Board Of Studies meeting held in the department of Zoology, KVR Govt. College for Women(A), Kurnool on 06-06-2018 at 10:30 AM resolved the following:

CONSTITUTION OF THE BOARD OF STUDIES

S.No.	Name & Designation	Acted as
1.	Smt P.Shajahan Begum Incharge of Dept. of Zoology KVR Govt. College for Women(A), Kurnool	Chairman
2.	Prof. K.Satyavelu Reddy, S.V.University ,Tirupathi.	University Nominee
3.	Dr.Md. Osman Ahmed,Lecturer in Zoology, Osmaina College (Autonomous), Kurnool	Subject Expert
4.	Sri G.Madhusudhana Rao, Lecturer in Zoology Silver jubilee Govt College,Kurnool	Subject Expert
5.	Dr.C.Obulapathi, lecturer in Zoology, KVR Govt. College for Women(A), Kurnool	Member
6.	Kum.G.E.P. Vijaya Rekha, lecturer in Zoology, KVR Govt. College for Women(A), Kurnool	Member
7.	Smt.Laxmi Kumari, lecturer in Zoology, KVR Govt. College for Women(A), Kurnool	Member
8.	Md Khalid Ahamed. Fisheries Development Officer.Fisheries Dept.Kurnool	Representative from Fisheries Department
9.	U .Aparna, SchoolTeacher	Alumni

10	C.Kavitha, J.Nirmala Kumari IIBZC.E.M KVR Govt. College for Women(A), Kurnool	Representative from students
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II Term: The term of the nominated members in 2 academic years i.e, 2017-2018 & 2018-2019.

III Functions:

- a) Prepare syllabi for various courses keeping in view of the objectives of the college, interest of stake holders and national requirement for consideration and approval of the academic council.
- b) Suggest methodologies for innovative and evaluation techniques.
- c) Suggest panel of names to the academic council for the appointment of paper setters and examiners.
- d) Co-ordinate research, teaching, extension and other academic activities in the departments and college.

IV Meeting:

Sir,

It is a pleasure to request and invite you to the meeting of B.O.S. of ZOOLOGY department for the academic year 2018-2019 which is scheduled to be held on 06-06-2018 at 10 .30 am in K.V.R.G.C.W (AUTONOMOUS) Kurnool.

We request you to attend the BOS meet and contribute experience to prepare ideal syllabi.

CHAIRMAN

Yours faithfully

PRICIPAL

18-19

RESOLUTIONS

The members of BOS in Zoology met on 06-06-2018 in the department of Zoology ,KVR Govt. Degree College for Women(A), Kurnool under the chairmanship of Smt P. Shajahan Begum I/C of the department of Zoology, discussed the proposals on the curriculum for the I year UG course and passed the following resolutions.

The following resolutions are made and passed unanimously.

1. Resolved to approve the revised syllabus in Zoology for I B.Sc., Semester-I and Semester-II as decided by the expert members and members of the Board of Studies (UG) Zoology.
 2. The revised syllabus will come into effect from the academic year 2018-19 for I B.Sc.. Semester-I and Semester-II.
 3. Resolved to conduct the practical examinations at the end of Semester-I,II for I B.Sc. students for 50 marks in each paper.
 4. Semester- I,II Each paper carries 60 Marks.
 5. Internal Assessment Examination will be for 40 Marks. There will be two Internal Assessment Examinations in each semester. (Average of two to be taken).
 6. Seminar/Group discussion/Quiz/Projects/ Attendance/extracurricular activities/Viva are given the weightage of 5 Marks. Assignment is given the weightage of 5 Marks. Total Internal Assessment Marks =40.
 7. Resolved to approve the syllabus (Theory Paper I,II) for the academic year 2018-19 as prescribed in the Proforma **Annexure -I & II**.
 8. Resolved to approve the list of practicals for Practical – I,II for the academic year 2018-19 as prescribed in the proforma **Annexure - III**.
 9. Practical scheme of valuation for Practical -II for the academic year 2018-19 in **Annexure-IV**.
 10. Resolved to approve the Model Papers for I-B.Sc. Semester- I and Semester- II for the academic year 2018-19 as as prescribed in the proformas per **Annexure-V** and **Annexure VI**.
 11. Justification report for the syllabus Paper- I,II(semester I,II) for the academic year 2018-19 as prescribed in the Proforma in **Annexure VII**.
-

12. Resolved to change question paper pattern from internal choice to open choice system to all the I, II, III YEAR papers.
13. Resolved to recommend the panel of examiners and paper setters as in **Annexure –VIII** from the academic year 2018-19.

ANNEXURE - I
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
(w. e. f. 2018-2019)

DEPARTMENT OF ZOOLOGY

FIRST YEAR - FIRST SEMESTER SYLLABUS

PAPER-I: ANIMAL DIVERSITY OF INVERTEBRATES

UNIT I

1.0 Protozoa to porifera

- 1.1 Phylum Protozoa: General characters and outline classification up to classes.
Nutrition in Phylum protozoa only. 5 hours
Type study: Elphidium: Structure, life history
- 1.2 Phylum Porifera: General characters and outline classification up to classes.
Type study: Sycon, Canal system in Sponges. 5 hours

UNIT II

Coelenterata to Platyhelminthes

- 2.1 Phylum Coelenterata: General characters and outline classification up to classes.
Type study: Obelia, Polymorphism in Coelenterates, corals and coral reef formation. 7 hours
- 2.2 Phylum Platyhelminthes: General characters and outline classification up to classes.
Type study: Fasciola hepatica; Structure, Reproduction and life history. 5 hours

UNIT III

3.0 Nematihelminthes to Annelida

- 3.1 Phylum Nematihelminthes: General characters and outline classification up to classes.
Type study: Ascaris lumbricoides; Structure and life history. 3 hours
- 3.2. Phylum Annelida: General characters and outline classification up to classes
Type study: Leech: Structure, Excretory, Reproductive systems. 5 hours

UNIT IV

4.0. Arthropoda

- 4.1 Phylum Arthropoda: General characters and outline classification upto classes
Type study: Prawn appendages, digestive system, nervous systems in prawn. crustacean larvae.
- 4.2 Peripatus characters and significance. 10 hours

UNIT V

5.0 Mollusca

- 5.1 Phylum Mollusca: General characters and outline classification upto classes



Type study: Pila digestive, respiratory systems, torsion in Molluscs; Pearl formation in Molluscs.
8hours

UNIT VI

6.0 Echinodermata to Hemichordata

6.1 Phylum Echinodermata: General characters and outline classification upto classes

Type study: Asterias : digestive systems, Water Vascular system. ; larvae in echinoderms.
7 hours

6.2 General characters of Hemichordata: Structure and affinities of Balanoglossus. 5 hours

ANNEXURE - II

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
(w. e. f. 2018-2019)

DEPARTMENT OF ZOOLOGY

FIRST YEAR - SECOND SEMESTER SYLLABUS **PAPER-II: ANIMAL DIVERSITY OF VERTEBRATES**

UNIT-I **10 hours**

1.0 General characters of chordates

1.1 Protochordates: Salient features of Urochordata and cephalochordata

1.2. Type study- **Herdmania** :Structure and life history of Herdmania,Significance of Retrogressive metamorphosis

UNIT- II **12 hours**

2.0 General characters of Cyclostomes.

2.1 General characters of fishes Classification up to class level with example.

2.2 Type study-**SCOLIODON**: Morphology, Respiratory system, circulatory system (Heart).
Sense organs,nervous system(brain)

*Migration of fishes and types of scales.

UNIT- III

08 hours

3.0 General characters and classification of Amphibian up to class level.

3.1 Type study- **RANA**: Morphology, Respiratory system, circulatory system(Heart).

*Parental care in Amphibians.

UNIT IV

08 hours

4.0 General characters and classification of Reptilian up to class level.

4.1Type study- **CALOTES**: Morphology, circulatory system (Heart),

* Differences between poisonous and non poisonous snakes.

UNIT-V

12 hours

5.0 General characters and classification of Aves up to class level with examples.

- 5.1 Type study- **PEGION** (COLUMBIA LIVIA): Exoskeleton (Quill feather)
Respiratory system, circulatory system (Heart).
*Significance of Migration in Birds. Flight adaptations in birds.

UNIT- VI

10hours

- 6.0 General characters and classification of Mammals up to class level with examples.
6.1 Type study: **RABBIT**: Respiratory system, circulatory system (Heart), Tooth structure, dental formula, in Mammals
* Comparative study of respiratory system, heart of all vertebrates

REFERENCE BOOKS

1. 'The Invertebrates' by L.H. Hyman. vol I, II and v. - M.C. Graw Hill company Ltd '
2. 'Invertebrate Zoology' - A functional Evolutionary approach. Ruppert, Fox and Barnes., Thomas publishers' Indian Edition'
3. 'Invertebrate Zoology' by E.L. Jordan and P.S. Verma., S.Chand and company'
4. 'Invertebrate Zoology' by R'D Barnes: W'B Sauwonders CO "1986'
5. 'Invertebrate structure and Function, by Barrington. E.J.W., ELBS.
6. 'A student text book of Zoology' by Sedgwick, A., Vol-I, II and III - Central Book Depot, Allahabad.
7. 'A text book of Zoology, by Parker, T.J' and Haswell, W.A., Mac Millan Co. London.
8. 'Textbook of Invertebrates' by Kavita Juneja and H'S' Bhamrah'
9. Modern text book of zoology vertebrates.....R.L Kotpal
10. text book of vertebrataJordan & verma



ANNEXURE - III

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
FIRST YEAR ZOOLOGY
(w.e.f. 2018-2019)

PRACTICAL PAPER – I

ANIMAL DIVERSITY OF INVERTEBRATES

I. Observation of the following slides / specimens / models:

Protozoa - Elphidium

Porifera - Spongilla,

Coelenterata - Physalia, , Gorgonia,

Platyhelminthes and Nematelminthes - Planaria, Larval stages of Fasciola-Miracidium, Redia, Cercaria,

Annelida - Nereis, Hirudo, Trochophore larva.

Arthropoda -, Peripatus.

Mollusca - Unio, Sepia, Octopus Glochidium larva.

Echinodermata - Asterias, Ophiothrix, Bipinnaria larva.

Hemichordata - Balanoglossus, Tornaria larva.

Virtual Dissections:

1. Nervous system of Prawn
2. Appendages of Prawn

ANNEXURE - III
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
FIRST YEAR ZOOLOGY
(w.e.f. 2018-2019)

PRACTICAL PAPER – II

ANIMAL DIVERSITY OF VERTEBRATES

Observation of the following slides/specimens/models

Protochordata: Herdmania, Amphioxus, Amphioxus T.S. through Pharynx.

Cyclostomata: Petromyzon, Myxine.

Pisces: Hippocampus, Exocoetus, Scales of fishes,

Amphibia: Amblystoma, Axolotal larva, Hyla, Rachophous.

Reptelia: Chamaeleon, Uromastix, Russels viper, Naja, Crocodile.

Aves: Passer, Psittacula, Pigeon, corvus, peacock,
Study of different types of feathers: Quill,.

Mammalia: Ornithorhynchus, Pteropus.

Osteology: Appendicular skeletons of pigeon and Rabbit--- Fore limbs, Hind limbs and Girdles

Virtual Dissections:

1. V, VII, IX, X Cranial Nerves of Shark.
2. Arterial system of Shark

- Laboratory record work shall be submitted at the time of Practical Examination.
- Compulsory one species to be adopted for demonstration only by the faculty.

ANNEXURE - IV
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
FIRST YEAR ZOOLOGY
(w.e.f. 2018-2019)

ANIMAL DIVERSITY OF INVERTEBRATES AND VERTEBRATES

PRACTICALS SCHEME OF VALUATION

Zoology practical Examination

Model Paper FOR SEM I & II

Time :3 hours

Max .Marks: 50

I) Labeled diagram of vertebrate virtual dissection/dissected animal	20 marks
II) invertebrates/vertebrates, larval forms	10 marks
III) Spotters Invertebrate and vertebrate	5 X 2:10marks.
[One Invertebrate Slide ,two osteology models ,Two Specimens of vertebrate]	
IV) Certified Record	10 Marks
Total Marks 50	

ANNEXURE - V

KVR GOVT COLLEGE(W), KURNOOL
(Autonomous)
NAAC RE- ACCREDITED 'A' GRADE

First Year Degree - First Semester End Examination
Model Paper
Paper I : ANIMAL DIVERSITY OF INVERTEBRATE

Time : 3 hours

Max.Marks : 60

section – A

Draw labeled diagrams wherever necessary
Answer any FIVE from following questions briefly

5x 4 = 20 M

1. Describe the structure of Elphidium.
2. Polyp

3. Miracidium
4. Explain the coelom and coelomoducts in Annelida
5. peripatus
6. Write about the pearl formation in Mollusca.
7. Classify the phylum echinodermata up to the level of classes
8. Balanoglossus

Section-B

Draw labeled diagrams wherever necessary

5x 8 = 40 M

Answer any FIVE from following questions

9. Describe the water vascular system in star fish
10. Describe the various types of canal systems in sponges
11. Write an essay on polymorphism
12. Give an account of life cycle of fasciola hepatica
13. Explain the excretory system of leech
14. Describe the reproductive system of leech
15. Describe the respiratory system in prawn

KVR GOVT COLLEGE(W), KURNOOL

(Autonomous)

NAAC RE- ACCREDITED 'A' GRADE

First Year Degree - SecondSemester End Examiantion

MODEL PAPER

Part II Zoology

Paper I: ANIMAL DIVERSITY OF VERTEBRATES

Time :3 hours

Max .Marks: 60M

Part – A

Draw labeled diagrams wherever necessary
Answer any FIVE questions

5 x 4 = 20 M

1. Cephalochordate characters
2. Scales in fishes.
3. Digestive system in frog
4. Rhyncocephalia .
5. Quill feather
6. Catadromous migration
7. Digestive system in rabbit
8. Tooth structure

Part - B

Draw labeled diagrams wherever necessary
Answer any FIVE questions

5 X 8 = 40M

9. Describe the life history of Herdmania
10. Respiratory system in Scoliodon.
11. Parental care in Amphibians.
12. Circulatory system in Calotes.
13. Respiratory system in Pigeon .
14. Dentition in mammals
15. Compare poisonous and non poisonous snakes

Note to the paper setter : q no 1-8 one question from each unit
q no 9-15 one question from each unit

ANNEXURE - VII
JUSTIFICATION REPORT 2018-19

FIRST SEMESTER:

1. Nutrition in protozoa is included in first unit as it is important to understand the basic modes of nutrition.
2. As paramecium life cycle was studied by the students in lower classes Elphidium life history was included.

SECOND SEMESTER:

1. In II unit excretory system of scoliodon, in III unit digestive system of frog, in VI unit digestive system of rabbit was deleted.
 2. In V unit circulatory system in pigeon and respiratory system in rabbit were added as these topics will be more useful for the students in their higher classes.
-

CHEMISTRY





**K.V.R GOVERNMENT COLLEGE (A), (W),
REACCREDITED WITH 'A' GRADE BY NAAC, KURNOOL
– 518001**

**BOARD OF STUDIES MEET FOR
B.Sc 3rd YEAR CHEMISTRY: V & VI – SEMESTERS
&
B.Sc I & II YEAR CHEMISTRY: EXAMINATION PATTERN
ON
28 – 06 – 2018**

DEPARTMENT OF CHEMISTRY

2018 – 2019

KVR Govt. College for Women (Autonomous)

Re-Accredited by NAAC with ‘A’ Grade, Kurnool



DEPARTMENT OF CHEMISTRY

Board of Studies Meet on 28-6- 2018

Minutes of Board of Studies meeting held in the department of Chemistry, KVR Govt. College for Women (A), Kurnool on 28 – 06 -2018 at 10:30 AM and resolved the following:

CONSTITUTION OF THE BOARD OF STUDIES OF UG CHEMISTRY

Sl.No.	Name & Designation	Acted as
1	Dr. B. Anusha, Lecturer in Chemistry, KVR Govt College (A) (W), Kurnool	Chairman
2	K.V. Murali Krishna, Lecturer in charge, KVR Govt College (A) (W), Kurnool	Member
3	P. Veerababu, Lecturer in charge, KVR Govt College (A) (W), Kurnool	Member
4	Dr. G. Nagaraja Reddy, Lecturer in Chemistry (Contract), KVR Govt. College for Women(A), Kurnool	Member
5	D.V. Ravi Kumar, Lecturer in Chemistry (Contract), KVR Govt. College for Women(A), Kurnool	Member
6	K.Aruna kumari, Lecturer in Chemistry (Contract), KVR Govt. College for Women(A), Kurnool	Member

7	A.Sunitha, Lecturer in Chemistry (Contract), KVR Govt. College for Women(A), Kurnool	Member
8	Prof K.P.Venkata Ramana, Department of Chemistry, SriKrishna Devaraya University	University Nominee
9	Dr Y.Siva Chandra, Lecturer in Chemistry, Govt Degree college (A), Anantapur.	Subject Expert
10	Dr. R. Prashanti, Lecturer in Chemistry, STBC Degree College, Kurnool	Alumni
11	I.Surendra Nath Reddy, Vice President, SRAAC , Kurnool	Industry Representative
12	K.Prasanna, III MPC (EM)	Student Representative
13	C.Kavitha ,III B.Z.C (EM)	Student Representative

RESOLUTIONS

The members of BOS in Chemistry met on 28 – 06 - 2018 in the department of Chemistry, KVR Govt. Degree College for Women(A), Kurnool under the chairmanship of Dr B.Anusha, I/C of the Department of Chemistry, discussed the proposals on the curriculum for the III year UG course and passed the following resolutions.

The following resolutions are made and passed unanimously.

1. Resolved to approve the revised syllabus in Chemistry for III B.Sc., Semester-v and Semester-VI as decided by University nominee, subject experts and members of the Board of Studies (UG) Chemistry.
2. The revised syllabus will come into effect from the academic year 2018-19 for III B.Sc. Semester-V and Semester-VI.
3. Resolved to conduct the practical examinations with a maximum of 50 Marks at the end of Vth semester (Internal) and in the VIth semester (External) one practical pertaining to the chosen elective paper with a maximum of 50 Marks and two practicals and one Project each with a maximum of 50 Marks pertaining to the chosen Cluster comprising of three theory papers.
4. Resolved to approve the 75 – 25 marks Examination pattern for the III year students, with effect from this academic year 2018 – 19. It is decided to allot 25 Marks for the internal assessment which includes 15 Marks for the test, 5 Marks for assignment, 5 Marks for student seminar/ viva.
The Question Paper pattern for External Examination is as follows for V, VI, VII(General Elective)papers,

Section	Type	Number of questions given	Number of questioned to be	Marks per question	Marks

			answered		
A	Short Essay	8	5	5	25
B	Essay	5(Internal choice)	5	10	50
Total Marks					75

5. Resolved to choose Paper – VII: A: Analytical Methods in Chemistry as General elective paper to be taught in the semester VI.
6. Resolved to choose Paper (s) – VIII: C – 1(Org Spectros studies),2(Adv org reactions),3(Pharma, Medi chemistry) as Cluster to be taught in the semester VI.
The Question Paper pattern for External Examination is as follows for clusters,

Section	Type	Number of questions given	Number of questioned to be answered	Marks per question	Marks
A	Short Essay	8	5	5	25
B	Essay	8	5	10	50
Total Marks					75

7. Resolved to approve the 60 – 40 marks Examination pattern for the II year students, with effect from this academic year 2018 – 19. It is decided to allot 40 Marks for the Internal assessment which includes 20 Marks for the test, 5 Marks for assignment, 5 Marks for student seminar/ viva, 5 Marks for Surprise test (objective) and 5 Marks for the student attendance for First and Second year students.

The Question Paper pattern for External Examination is as follows for I,II, III & IV semesters,

Section	Type	Number of questions given	Number of questioned to be answered	Marks per question	Marks
A	Short Essay	8	5	4	20
B	Essay	5(Internal choice)	5	8	40
Total Marks					60

8. Resolved to authorize the Chairman of Board of Studies to make any alterations either in syllabus or pattern in accordance with the instructions from APSCHE, University and CCE.

B.Sc. Chemistry Syllabus under CBCS
Structure of Chemistry Syllabus Under CBCS

YEAR	SEMESTER	PAPER	TITLE	MARKS	CREDITS
I	I	I	Inorganic and Organic Chemistry	100	03
			Practical – I	50	02
	II	II	Physical and General Chemistry	100	03
			Practical – II	50	02
II	III	III	Inorganic and organic Chemistry	100	03
			Practical – III	50	02
	IV	IV	Spectroscopy and Physical Chemistry	100	03
			Practical – IV	50	02
	V	V	Inorganic , Physical and Organic Chemistry	100	03
			Practical – V	50	02
		VI	Inorganic ,Organic and Physical Chemistry	100	03

III			Practical – VI	50	02
	VI	VII (A)*	re: Analytical methods in chemistry	100	03
	* Any one Paper from VII A, B and C (One Paper)		Practical - VII A	50	02

K.V.R GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL

SEMESTER-V

Paper - V (INORGANIC, PHYSICAL & ORGANIC CHEMISTRY)
45 hrs (3 h / w)

INORGANIC CHEMISTRY

UNIT – I

Coordination Chemistry:

8h

IUPAC nomenclature - bonding theories - Review of Werner's theory and Sidgwick's concept of coordination - Valence bond theory - geometries of coordination numbers 4-tetrahedral and square planar and 6-octahedral and its limitations, crystal field theory - splitting of d-orbitals in octahedral, tetrahedral and square-planar complexes - low spin and high spin complexes - factors affecting crystal-field splitting energy, merits and demerits of crystal-field theory. Isomerism in coordination compounds - structural isomerism and stereo isomerism, stereochemistry of complexes with 4 and 6 coordination numbers.

UNIT-II

1. Magnetic properties of metal complexes:

4h

Types of magnetic behavior, spin-only formula, calculation of magnetic moments, experimental determination of magnetic susceptibility-Gouymethod.

2. Stability of metal complexes:

3h

Thermodynamic stability and kinetic stability, factors affecting the stability of metal complexes, chelate effect, determination of composition of complex by Job's method and mole ratio method.

ORGANIC CHEMISTRY

UNIT- III

Nitro hydrocarbons:

3h

Nomenclature and classification-nitro hydrocarbons, structure -Tautomerism of nitroalkanes leading to aci and keto form, Preparation of Nitroalkanes, reactivity -halogenation, reaction with HONO (Nitrous acid),Nef reaction and Mannich reaction leading to Micheal addition (mechanism not required) and reduction.

UNIT – IV

Nitrogen compounds:

12h

Amines (Aliphatic and Aromatic): Nomenclature, Classification into 1°, 2°, 3° Amines and Quarternary ammonium compounds. Preparative methods –

1. Ammonolysis of alkyl halides 2. Gabriel synthesis 3. Hoffman's bromamide reaction (mechanism).

Reduction of Amides and Schmidt reaction. Physical properties and basic character - Comparative basic strength of Ammonia, methyl amine, dimethyl amine, trimethyl amine and aniline - comparative basic strength of aniline, N-methylaniline and N,N-dimethyl aniline (in aqueous and non-aqueous medium), steric effects and substituent effects. Chemical properties: a) Alkylation b) Acylation c) Carbylamine reaction d) Hinsberg separation e) Reaction with Nitrous acid of 1°, 2°, 3° (Aliphatic and aromatic amines). Electrophillic substitution of Aromatic amines – Bromination and Nitration. Oxidation of aryl and Tertiary amines, Diazotization.

PHYSICAL CHEMISTRY

UNIT- V

Thermodynamics

15h

The first law of thermodynamics- Different statements, definition of internal energy and enthalpy. Heat capacities and their relationship. Joule-Thomson effect- coefficient. Calculation of w , for the expansion of perfect gas under isothermal and adiabatic conditions for reversible processes. Temperature dependence of enthalpy of formation-Kirchoff s equation. Second law of thermodynamics. Different Statements of the law. Carnot cycle and its efficiency. Carnot theorem. Concept of entropy, entropy as a state function, entropy changes in reversible and irreversible processes. Entropy changes in spontaneous and equilibrium processes.

List of Reference Books

1. Concise coordination chemistry by Gopalan and Ramalingam
-

2. Coordination Chemistry by Basalo and Johnson
3. Organic Chemistry by G.Mare loudan, Purdue Univ
4. Advanced Physical Chemistry by
- 5.Text book of physical chemistry by S Glasstone
- 6.Concise Inorganic Chemistry by J.D.Lee
7. Advanced Inorganic Chemistry Vol-I by Satyaprakash, Tuli, Basu and Madan
8. A Text Book of Organic Chemistry by Bahl and Arun bahl
- 9.A Text Book of Organic chemistry by I L Finar Vol I
- 10.Advanced physical chemistry by Gurudeep Raj



K.V.R GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL

SEMESTER-V

Paper - VI (INORGANIC, ORGANIC & PHYSICAL CHEMISTRY)

45 hrs (3 h / w)

INORGANIC CHEMISTRY

UNIT-I

1. Reactivity of metal complexes:

4h

Labile and inert complexes, ligand substitution reactions - S_N1 and S_N2 reactions in octahedral complexes, substitution reactions of square planar complexes - Trans effect and applications of trans effect.

2. Bioinorganic chemistry:

4h

Essential elements, biological significance of Na, K, Mg, Ca, Fe, Co, Ni, Cu, Zn and Cl^- . Metalloporphyrins – Structure and functions of hemoglobin, Myoglobin and Chlorophyll.

PHYSICAL CHEMISTRY

UNIT-II

1. Chemical kinetics

8h

Rate of reaction - Definition of order and molecularity. Derivation of rate constants for first, second, third and zero order reactions and examples. Derivation for time half change. Methods to determine the order of reactions. Effect of temperature on rate of reaction, Arrhenius equation, concept of activation energy.

2. Photochemistry

5h

Difference between thermal and photochemical processes. Laws of photochemistry- Grothus-Draper's law and Stark-Einstein's law of photochemical equivalence. Quantum yield-Photochemical reaction mechanism- hydrogen- chlorine, hydrogen- bromine reaction. Qualitative description of fluorescence, phosphorescence, Photosensitized reactions- energy transfer processes (simple example)

ORGANIC CHEMISTRY

UNIT- III

Heterocyclic Compounds

7h

Introduction and definition: Simple five membered ring compounds with one hetero atom Ex. Furan. Thiophene and pyrrole - Aromatic character – Preparation from 1,4,- dicarbonyl compounds, Paul-Knorr synthesis.

Properties : Acidic character of pyrrole - electrophilic substitution at 2 or 5 position, Halogenation, Nitration and Sulphonation under mild conditions - Diels Alder reaction in furan.

Pyridine – Structure - Basicity - Aromaticity - Comparison with pyrrole - one method of preparation and properties - Reactivity towards Nucleophilic substitution reaction.

UNIT-IV

Carbohydrates

8h

Monosaccharides: (+) Glucose (aldo hexose) - Evidence for cyclic structure of glucose (some negative aldehydes tests and mutarotation) - Proof for the ring size (methylation, hydrolysis and oxidation reactions) - Pyranose structure (Haworth formula and chair conformational formula).

(-) Fructose (ketohexose) - Evidence of 2 - ketohexose structure (formation of pentaacetate, formation of cyanohydrin its hydrolysis and reduction by HI). Cyclic structure for fructose (Furanose structure and Haworth formula) - osazone formation from glucose and fructose – Definition of anomers with examples.

Interconversion of Monosaccharides: Aldopentose to Aldohexose (Arabinose to

D- Glucose, D-Mannose) (Kiliani - Fischer method). Epimers, Epimerisation - Lobry de bruyn van Ekenstein rearrangement. Aldohexose to Aldopentose (D-Glucose to

D- Arabinose) by Ruff degradation. Aldohexose to Ketohexose

[(+) Glucose to (-) Fructose] and Ketohexose to Aldohexose (Fructose to Glucose)

UNIT- V

Amino acids and proteins

7h

Introduction: Definition of Amino acids, classification of Amino acids into alpha, beta, and gamma amino acids. Natural and essential amino acids - definition and examples, classification of alpha amino acids into acidic, basic and neutral amino acids with examples. Methods of synthesis: General methods of synthesis of alpha amino acids (specific examples - Glycine, Alanine, valine and leucine) by following methods: a) from halogenated carboxylic acid b) Malonic ester synthesis c) strecker's synthesis.

Physical properties: Zwitter ion structure - salt like character - solubility, melting points, amphoteric character, definition of isoelectric point.

Chemical properties: General reactions due to amino and carboxyl groups - lactams from gamma and delta amino acids by heating peptide bond (amide linkage). Structure and nomenclature of peptides and proteins.

List of Reference Books

1. Concise coordination chemistry by Gopalan and Ramalingam
 2. Coordination Chemistry by Basalo and Johnson
 3. Organic Chemistry by G.Mare loudan, Purdue Univ
 4. Advanced Physical Chemistry by Atkins
 5. Text book of physical chemistry by S Glasstone
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7. Instrumentation and Techniques by Chatwal and Anand
8. Essentials of nano chemistry by pradeep
9. A Textbook of Physical Chemistry by Puri and Sharma
10. Advanced physical chemistry by Gurudeep Raj

K.V.R GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL

LABORATORY COURSE – V
Practical Paper – V Organic Chemistry
(At the end of semester V) 30 hrs (2 h / W)

Organic Qualitative Analysis: 50M

Analysis of an organic compound through systematic qualitative procedure for functional group identification including the determination of melting point and boiling point with suitable derivatives.

Alcohols, Phenols, Aldehydes, Ketones, Carboxylic acids, Aromatic Primary Amines, Amides and Simple sugars.

LABORATORY COURSE – VI
Practical Paper – VI Physical Chemistry
(At the end of semester V) 30 hrs (2 h/W)

1. Determination of Surface tension of liquid
2. Determination of Viscosity of liquid.
3. Chemical Kinetics - Determination Of Rate Constant For Acid Catalysed Ester Hydrolysis



K.V.R GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL

**SEMESTER-VI – General Elective
ELECTIVE Paper – VII-(A) : ANALYTICAL METHODS
IN CHEMISTRY**

45hrs (3h / w) UNIT-I

Quantitative analysis:

10h

- a) Importance of it in various fields of science, steps involved in chemical analysis. Principles of volumetric analysis - Theories of acid-base, redox, complexometric, iodometric and precipitation titrations - choice of indicators for these titrations.
- b) Principles of gravimetric analysis: precipitation, coagulation, peptization, coprecipitation, post precipitation, digestion, filtration and washing of precipitate, drying and ignition.

UNIT-II

Treatment of analytical data:

7h

Types of errors, significant figures and its importance, accuracy - methods of expressing accuracy, error analysis and minimization of errors, precision - methods of expressing precision, standard deviation and confidence limit.

UNIT-III

SEPARATION TECHNIQUES IN CHEMICAL ANALYSIS:

8h

SOLVENT EXTRACTION : Introduction, principle, techniques, factors affecting solvent extraction, Batch extraction, continuous extraction and counter current extraction. Synergism., Application - Determination of Iron (III)

ION EXCHANGE : Introduction, action of ion exchange resins, separation of inorganic mixtures, applications, Solvent extraction: Principle and process,

UNIT – IV

10h

Chromatography: Classification of chromatography methods, principles of differential migration adsorption phenomenon, Nature of adsorbents, solvent systems, R_f values, factors effecting R_f values.

Paper Chromatography: Principles, R_f values, experimental procedures, choice of paper and solvent systems, developments of chromatogram - ascending, descending - applications of Paper chromatography.

UNIT -V

10h

Thin layer Chromatography (TLC): Advantages. Principles, factors effecting R_f values. Experimental procedures. Adsorbents and solvents. Preparation of plates. Development of the chromatogram. Detection of the spots. Applications.

Column Chromatography: Principles, experimental procedures, Stationary and mobile Phases, Separation technique. Applications

K.V.R. GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL

Cluster Elective –III

ORGANIC

PAPER – VIII-C-1: ORGANIC SPECTROSCOPIC TECHNIQUES

45 hrs (3 h / w)

UNIT-I

Electronic spectra of polyatomic molecules. Chemical analysis by Electronic Spectroscopy – Beer-Lambert's Law. Deviation from Beer's law. Quantitative determination of metal ions (Mn^{+2} , Fe^{+2}).

UNIT – II

UV & VISIBLE SPECTROSCOPY

Electronic spectra of diatomic molecules. ultraviolet bands for carbonyl compounds, unsaturated carbonyl compounds, dienes, conjugated polyenes. Fieser-woodward rules for conjugated dienes and carbonyl compounds, ultraviolet spectra of aromatic and heterocyclic compounds. Steric effect in biphenyls.

Types of transitions, effect of solvent on electronic transitions, Chromophores, Auxochromes.

UNIT-III

NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY

10h

Nuclear spin, Principles of NMR. Instrumentation. Relaxation-spin-spin & spin lattice relaxation. Shielding constants, Chemical shifts, Shielding and Deshielding mechanism-Factors influencing Chemical shift. Spin-Spin interactions-AX, AX_2 and AB types. Vicinal, Geminal and Long range coupling- Factors influencing coupling constants.

UNIT-IV

5h

Spin decoupling, Deuterium exchange, Chemical shift reagents and Nuclear Overhauser effect. Applications of NMR-1) Identification of Structural isomers, 2) Detection of H-bonding, 3) Detection of Aromaticity, 4) Distinction between Cis and Trans isomers. FT NMR principle and its Advantages.

UNIT V

Mass Spectrometry

Basic Principle, Molecular ion, Parent ion, fragment ions. Theory- formation of parent ions, representation of mass spectrum. Ionisation methods- EI, CI. Nitrogen rule, metastable ion, identification of (M+1),(M+2) and base peaks, determination of molecular formula- eg: ethyl benzene, Acetophenone, n-butylamine, 1-propanal.

REFERENCE BOOKS:

1. Electron Spin Resonance Elementary Theory and Practical Applications- John E. Wertz and James R. Bolton, Chapman and Hall, 1986.
2. Spectroscopic Identification of organic compounds – Silverstein, Basseler and Morrill.
3. Organic Spectroscopy- William Kemp.



K.V.R. GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL

Cluster Elective –III

ORGANIC

PAPER – VIII-C-2 : ADVANCED ORGANIC REACTIONS

45 hrs (3 h / w)

UNIT – I

ORGANIC PHOTOCHEMISTRY

6 h

Organic photochemistry : Molecular orbitals, carbonyl chromophore– single and triplet states, Jablonski diagram, inter–system crossing. Energy transfer.

Photochemical reactions : (a) Photoreduction, mechanism, influence of temperature, solvent.

UNIT – II

ORGANIC PHOTOCHEMISTRY

8 h

Norrish cleavages, type I: Mechanism, acyclic ketones, influence of sensitizer, photo Fries rearrangement. Norrish type II cleavage: Mechanism of type II reactions of esters, photo decarboxylation., Di - π methane rearrangement, Photochemistry of conjugated dienes, Decomposition of nitrites – Barton reaction.

UNIT – III

PROTECTING GROUPS AND ORGANIC REACTIONS

12 h

Principles of (1) Protection of alcohols – ether formation including silyl ethers – ester formation, (2) Protection of diols – acetal, ketal and carbonate formation, (3) Protection of carboxylic acids – ester formation, benzyl and t-butyl esters, (4) Protection of amines – acetylation, benzylation, benzyloxy carbonyl (5) Protection of carbonyl groups – acetal, ketal, 1,2–glycols and 1,2–dithioglycols formation.

UNIT – IV

10 h

Synthetic reactions : Mannich reaction – Mannich bases – Robinson annulations - Shapiro reaction - Stork–enamine reaction. Use of dithioacetals – Umpolung, phase transfer catalysis – mechanisms and use of benzyl trialkyl ammonium halides. Wittig reaction.

UNIT –V : NEW SYNTHETIC REACTIONS

9 h

Baylis–Hillman reaction, RCM olefin metathesis, Grubb catalyst, Mukayama aldol reaction, Mitsunobu reaction, McMurrey reaction, Julia–Lythgoe olefination, Heck reaction, Suzuki coupling, Stille coupling - Ugi reaction - Click reaction.

Recommended Books

1. Molecular reactions and Photochemistry by Charles Dupey and O.L. Chapman.
2. Molecular Photochemistry by Turru.
3. Importance of antibonding orbitals by Jaffe and Orchin.
4. Text Book of Organic Chemistry by Cram,. Hammand and Henrickson.

K.V.R. GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL

Cluster Elective –III

ORGANIC

PAPER – VIII-C-3: PHARMACEUTICAL AND MEDICINAL CHEMISTRY

45 hrs (3 h / w)

UNIT-I

8h

Pharmaceutical chemistry Terminology: Pharmacy, Pharmacology, Pharmacophore, Pharmacodynamics, Pharmacokinetics (ADME, Receptors - brief treatment) Metabolites and Anti metabolites.

UNIT-II

Drugs:

8h

Nomenclature: Chemical name, Generic name and trade names with examples Classification: Classification based on structures and therapeutic activity with one example each, Administration of drugs

UNIT-III: Structure, therapeutic use, activity, dosage and adverse effects of the following drugs:

12h

I. Antibiotics: Penicillin, Chloramphenicol, Streptomycin, Tetracycline

II. Cardiovascular Drugs: Quinidine, Methyldopa, Oxyprenolol, Atenolol

III. Anti-microbials: Sulfamethoxazole

UNIT-IV: Structure, therapeutic use, activity, dosage and adverse effects of Commonly Used drugs:

8h

1. Antipyretics – Paracetamol, 2. Synthesis of Analgesics – Aspirin, 3. Synthesis of Anti-inflammatory drugs – Ibuprofen, 4. Synthesis of Diuretics – Frusemide (Lasix), 5. Anti diabetic drugs - Tolbutamide

UNIT-V

HIV-AIDS:**9h**

Immunity - CD-4cells, CD-8cells, Retro virus, Replication in human body, Investigation available, prevention of AIDS, Drugs available - examples with structures: PIS: Indinavir (crixivan), Nelfinavir (Viracept).

List of Reference Books:

1. Medicinal Chemistry by Dr. B.V. Ramana
 2. Synthetic Drugs by O.D. Tyagi & M. Yadav
 3. Medicinal Chemistry by Ashutoshkar
 4. Medicinal Chemistry by P. Parimoo
 5. Pharmacology & Pharmacotherapeutics R.S. Satoshkar & S.D. Bhandenkar
 6. Medicinal Chemistry by Kadametal P-I & P.II
 7. European Pharmacopoeia
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K.V.R. GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL
LABORATORY COURSE – VII

Practical Paper – VII-(A) (at the end of semester VI) 30hrs - 50M

1. Determination of Concentration of HCl conductometrically using standard NaOH solution.
2. Determination of concentration of acetic acid conductometrically using standard NaOH solution.
3. Identification of aminoacids by paper chromatography

LABORATORY COURSE – VIII

Practical Paper – VIII-C-1: (at the end of semester VI) 30 hrs (2 h / W)

Spectral Identification of Un-Known Organic Compounds by Interpretation of UV, IR, ¹H NMR, Mass Spectral Data

Note: A minimum of 10 representative examples should be studied

LABORATORY COURSE – VIII

Practical Paper – VIII-C-2 (at the end of semester VI)

30 hrs (2 h / W)

1. Preparation of Aspirin
2. Preparation of Paracetamol
3. Preparation of Acetanilide
4. Preparation of Barbutiric Acid
5. Preparation of Phenyl Azo β-naphthol

VII-C-3 Practical: - Project Work

BIOTECHNOLOGY



S.No.	Name	Signature
1.	Smt. G. Indravathi	Ind P
2.	Smt. P. Sangeetha	Sangeetha P.
3.	Prof. Dr. V. Kalarani	
4.	Sri. H. Mahboob Basha	H. Mahboob Basha
5.	Dr. G. Ebenezer	G. Ebenezer
6.	Kum. G. Madhavilatha	M. Madhavilatha
7.	Kum. H. Antul Mukhith	H. Antul Mukhith
8.	Kum. T. Anusha	T. Anusha.
9.	Kum. K. Devi Bai	K. Devi Bai

DEPARTMENT OF BIOTECHNOLOGY
FIRST YEAR – I SEMESTER SYLLABUS

PAPER I - CELLBIOLOGY AND MICROBIOLOGY

UNIT I : History, Development of Microbiology and Microscopy

History and development of microbiology: contributions of Louis Pasteur, Robert Koch and Edward Jenner.
Microscopy: Numerical aperture and its importance, resolving power, oil immersion objectives and their significance. Principles and applications of Compound ,Dark field, Phase contrast, Fluorescent and Electron – Scanning Electron Microscopy and Transmission Electron Microscopy .
Staining Techniques: S t a i n s - Acidic, Basic and Neutral stains. Gram staining ,Endospore staining.

UNIT II : Microbial Nutrition:

Basic nutritional requirements: water, carbon, nitrogen, sulfur, vitamins and trace elements .
Classification of bacteria based on nutritional requirement.
Types of media-Natural and Synthetic media - Selective media, Differential media and Enriched media.
Pure cultures – Isolation and maintenance of pure culture.

UNIT III : Microbial Growth and Control:

Growth: Growth rate and generation time, details of growth curve and its various phases.
Physical conditions required for growth: Classification of microorganisms on the basis of temperature, pH ,oxygen requirements .
Microbial Control: Sterilization and Types of Sterilization
Physical control: Temperature (moist heat, autoclave, dry heat, hot air oven and incinerators)
Radiation - UV light, Ultrasonic sound waves,and Filtration.
Chemical control: Antiseptics and disinfectants (halogens, alcohol, gaseous sterilization.)

UNIT IV : Cell Biology- Prokaryotes

A. Bacteria:

Bacterial morphology and subcellular structures, shapes and Typical Structure of Bacterial cell.
Difference between the structure, function and the position of Slime layer and capsule. Cell wall of Gram+ve and Gram -ve cells.General account of flagella and fimbriae. Chromatin material.
Plasmids; definition and types of plasmids (conjugative and non-conjugative) F, R, and Col plasmids.
Endospores: Detailed study of endospore structure and its formation, germination, basis of resistance.
Morphology of archaea, archaeal cell membrane , Differences between bacteria and archaeal bacteria.

B. Viruses: General characteristics of Viruses, difference between virus and typical microbial cell,Virus-structure,shapes and symmetries with one example of each type.
Classification of viruses on the basis of nucleic acids.
HIV Virus – Structure and lifecycle.
Bacteriophage – Structure and Life cycle(lytic cycle and lysogeny).

UNIT V : Cell Biology -Eukayotic Cell

Eukaryotic Cell - Structure and function of the following: nucleus, nuclear membrane, nucleoplasm, nucleolus, golgi complex, Mitochondria, Chloroplast, endoplasmic reticulum, lysosomes, peroxisomes,

glyoxisomes and vacuoles.Plant cell wall.Cytoskeleton (Micro and Macro filaments, microtubules) and cell locomotion .

Outlines of cell cycle , Cell Division- Mitosis and Meiosis.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
(w. e. f. 2018-2019)

DEPARTMENT OF BIOTECHNOLOGY
FIRST YEAR – I SEMESTER PRACTICAL SYLLABUS

PAPER I - MICROBIOLOGY AND CELL BIOLOGY

1. Demonstration, use and care of microbiological equipments.
2. Preparation and sterilization of media
3. Isolation of Bacteriophage from sewage / other sources.
- 4 Demonstration of motility of Bacteria.
5. Simple staining of bacteria
6. Gram staining of Bacteria
- 7 Acid fast stainingBacteria
8. Endospore staining.
9. Demonstration of starch hydrolysis by bacterial cultures
10. Growth of fecal coliforms on selective media.
11. Isolation of pure culture by pour platemethod
12. Isolation of pure culture by streak plate method.
13. Anaerobic cultivation of microorganisms.
14. Cultivation of yeast and moulds.
15. Antibiotic sensitivity assay.
16. Oligodynamic action of metals.
17. To study germicidal effect of UV light on bacterial growth.
18. Stages of Mitosis.
19. Stages of Meiosis.

Note: - Mandatory to perform at least ten practical.

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ANNEXURE - II

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
(w. e. f. 2018-2019)

DEPARTMENT OF BIOTECHNOLOGY **FIRST YEAR – II SEMESTER SYLLABUS**

PAPER II- MACROMOLECULES, ENZYMOLOGY AND BIOENERGETICS

UNIT I

Nucleic Acids and Chromosomes

Chemical structure and base composition of nucleic acids, Chargaff's rules. Watson & Crick Model (B-DNA). Deviations from Watson & Crick model. Other forms of DNA (A- and Z-DNA)

Forces stabilizing nucleic acid structures -Hydrogen bonds and Hydrophobic associations, Base stacking.

Chromosome- Structure, Role of telomere and centromere. Ploidy

Types of chromosome based on centromere location and condensation.

Special chromosomes- Lampbrush chromosomes, Polytene chromosomes.

UNIT II

Amino acids and Proteins

Amino acids: Structure of amino acids, classification of amino acids (pH based, polarity based and nutrition based), Physico-chemical properties of amino acids (solubility, boiling and melting points, reactions like Edman's, Sanger's, Dansyl chloride, ninhydrin).

Primary structure of proteins: Determination of primary structure.

Secondary structure of proteins: The α -helix, β -structures (parallel, antiparallel, mixed, γ -turn).

Tertiary structure of proteins: Forces that stabilize the structure (electrostatic forces, hydrogen and disulfide bonds, hydrophobic associations).

Quaternary structure of proteins: Forces stabilizing quaternary structure.

UNIT III:

Carbohydrates

Definition, classification, nomenclature of carbohydrates. Structures and examples of Monosaccharides, Disaccharides and Polysaccharides.

Homopolysaccharides- starch and glycogen; Heteropolysaccharides – Chitin and Hyaluronic acid

Lipids

Types of lipids, structures of saturated and unsaturated fatty acids, triglycerides, phospholipids, plasmalogens, gangliosides and sphingolipids. Concept of acid value, saponification value and iodine value. Chemistry of Heme and Chlorophylls.

UNIT IV

Enzymes

Terminology: Active site, allosteric site, Holoenzyme, apoenzyme, coenzyme, substrate, inhibitor, activator, modulator etc. Classification and nomenclature of enzymes

Substrate Specificity - Lock and key model and Induced fit model.

Assay of Enzymes: Concept of activity, specific activity, turnover number, units of enzyme activity (katal, international unit)

Enzyme kinetics: Michaelis-Menten equation, effect of substrate concentration, effect of enzyme concentration, effect of pH and temperature, temperature quotient.

Single reciprocal (Eadie-Hofstee equation) and double reciprocal plots (Lineweaver-Burke plots),

Enzyme inhibition kinetics - Reversible inhibition – competitive, uncompetitive and non-competitive ; Irreversible inhibition.

UNIT V

Bioenergetics: Concept of free energy, Entropy, Enthalpy & Redox Potential. Concept of high energy bonds as related to the structure of ATP, Phosphoenolpyruvate and Creatine phosphate. Energetics of Glycolysis and Gluconeogenesis



KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
(w. e. f. 2018-2019)

DEPARTMENT OF BIOTECHNOLOGY
FIRST YEAR – II SEMESTER PRACTICAL SYLLABUS

PAPER II- MACROMOLECULES, ENZYMOLOGY AND BIOENERGETICS

1. Formal titration of glycine.
2. Quantitative Estimation of proteins by Biuret method 3.
Determination of albumin & A/G ratio in serum.
4. Estimation of DNA by Diphenylamine method 5.
Estimation of RNA by Orcinol method
6. Quantitative estimation of amino acids using Ninhydrin reaction.
7. Qualitative Analysis of sugars and proteins.
8. Quantitative estimation of sugars (Dinitrosalicylic acid method). 9.
Estimation of glucose by Benedict's quantitative method
10. Quantitative estimation of proteins by Lowry's method.
11. Extraction and quantification of total lipids.
12. Determination of saponification value of Fats 13.
Determination of Acid Value of Fats
14. Isolation of urease and demonstration of its activity 15.
Assay of protease activity.
16. Preparation of starch from Potato and its hydrolysis by salivary amylase. 17.
Assay of alkaline phosphatase
18. Immobilization of enzymes / cells by entrapment in alginate gel 19.
Effect of temperature / pH on enzyme activity

*** Minimum of Ten practicals are mandatory**

ANNEXURE -III
KVR GOVT COLLEGE FOR WOMEN(A) , KURNOOL
NAAC RE- ACCREDITED 'A' GRADE
First Year Degree – I & II Semester End Examination

BLUE PRINT - PAPER SETTER

Group: I B.Sc
Sub: Biotechnology

Max Marks: 60
Time: 3Hrs

Section – A

Answer any FIVE of the following:

5x4=20M

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Section – B

Answer ALL of the following:

5x8=40M

9. (a) OR (b)
-

10. (a) OR (b)

11. (a) OR (b)

12. (a) OR (b)

13. (a) OR (b)

Note to the Paper Setter : Q no 1-8 atleast **ONE** question from each unit .

Q no 9-13 **TWO** questions from each unit.

ANNEXURE-IV

KVR GOVT COLLEGE FOR WOMEN(A) , KURNOOL
NAAC RE- ACCREDITED 'A' GRADE
First Year Degree - First Semester End Examianition

Time : 3 hours

Max.Marks : 60M

Part – A

Draw labeled diagrams wherever necessary

5x 4 M = 20 M

Answer any FIVE questions

- 1.Grams Staining
- 2.Contribution of Louis Pasteur
3. Plasmids
4. Lytic Cycle
- 5.Nutritional Classification of Bacteria
- 6.Growth Curve
- 7.Cell Cycle
- 8.Cytoskeleton

Part – B

Answer ALL of the following:

5x8M = 40M

9. (a) Principle and applications of TEM & SEM (OR)
- (b) Principle and applications of Phase contrast microscopy
10. (a) Endospore Structure & Germination. (OR)
- (b) HIV Virus – Structure & life cycle.
11. (a) Isolation and maintenance of pure cultures. (OR)
- (b) Types of nutrient media.
12. (a) Physical methods of sterilization (OR)
- (b) Chemical methods of sterilization
13. (a) Structure & function of nucleus (OR)
- (b) Meiosis & its significance.

ANNEXURE - V
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
FIRST YEAR BIOTECHNOLOGY
(w.e.f. 2017-2018)

PRACTICALS SCHEME OF VALUATION

Biotechnology practical Examination
Model Paper

Time :3 hours

Max .Marks: 50

- (I) Identify the given bacterial sample by Grams staining method. 15 M
- (II) Identify the stages of cell division in Onion root tip by performing squash method. 10 M
-

(III) Antibiotic sensitive assay	10 M
(IV) Viva	5M
(V) Certified Record	10 M

ANNEXURE-VI
KVR GOVT COLLEGE FOR WOMEN(A) , KURNOOL
NAAC RE- ACCREDITED 'A' GRADE
First Year Degree - Second Semester End Examianation

Time : 3 hours

Max.Marks : 60M

Part – A

Draw labeled diagrams wherever necessary

5x 4 M = 20 M

Answer any FIVE questions

- 1.Nucleotide
 - 2.Peptide bond
 - 3.Heteropolysaccharide
 - 4.Factors affecting Enzyme activity
-

- 5. Michaelis and Menten equation
- 6. ATP
- 7. Sphingolipids
- 8. Entropy & Enthalpy.

Part – B

Answer ALL of the following questions

5 x 8M = 40 M

9. (a) Watson and Crick model of DNA (OR)

(b) Chromosome Structure and types.

10. (a) Structural organization of proteins (OR)

(b) Classify amino acids based on polarity.

11. (a) Classification of carbohydrates (OR)

(b) Classification of Lipids.

12. (a) Enzyme Inhibition. (OR)

(b) Classification and Nomenclature of enzymes.

13. (a) Gluconeogenesis (OR)

(b) Glycolysis

ANNEXURE - VII
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
FIRST YEAR BIOTECHNOLOGY
(w.e.f. 2017-2018)

PRACTICALS SCHEME OF VALUATION

Biotechnology practical Examination

Model Paper

Time :3 hours

Max .Marks: 50

(I) Estimate the amount of DNA present in the given sample by DPA method. 15 M

(II) Qualitative analysis of aminoacids. 10 M

(III) Quantitative estimation of sugars by Benedicts method. 10 M

(IV) Viva 5M

(V) Certified Record 10 M



BIOCHEMISTRY



KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A" CHOICE BASED CREDIT SYSTEM FIRST YEAR B.Sc.
BIOCHEMISTRY FIRST SEMESTER

(w.e.f. 2018-2019)

Unit I: Cell biology

Prokaryotic and eukaryotic cell (animal and plant cells), structure of nuclear envelope, nuclear pore complex. ER structure. Organization of Golgi. Lysosome. Structure and functions of mitochondria, chloroplasts and peroxisomes. Biomembranes.

Unit II : Water

Water as a biological solvent and its role in biological processes. pH, Buffers, Henderson- Hesselbach equation.

Unit III: Carbohydrates

Carbohydrates: Classification, monosaccharide's, D and L designation, open chain and cyclic structures, epimers and anomers, mutarotation, reactions of carbohydrates Amino sugars, Glycosides. Structure and biological importance of disaccharides (sucrose, lactose, maltose, isomaltose, trehalose), trisaccharides (raffinose, melezitose), structural polysaccharides (cellulose, chitin, pectin) and storage polysaccharides (starch, inulin, glycogen). Glycosaminoglycans, Bacterial cell wall polysaccharides. Outlines of glycoproteins, glycolipids and blood group substances.

Unit IV: Lipids:

Classification, saturated and unsaturated fatty acids, structure and properties of fats and oils (acid, saponification and iodine values, rancidity). General properties and structures of phospholipids, sphingolipids and cholesterol. Prostaglandins- structure and Functions. Lipoproteins: Types and functions

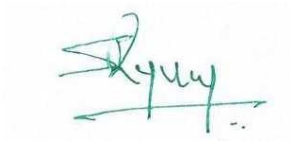
Unit-V : Amino Acids, Peptides

Amino Acids: Classification, structure, stereochemistry, chemical reactions of amino acids due to carbonyl and amino groups. Titration curve of glycine and pK values. Essential and non-essential amino acids, non-protein amino acids. Peptide bond - nature and conformation. Naturally occurring peptides ñ glutathione, enkephalin.

Unit-VI: Proteins

Proteins: Classification based on solubility, shape and function. Determination of amino acid composition of proteins. General properties of proteins, denaturation and renaturation of

proteins. Structural organization of proteins- primary, secondary, tertiary and quaternary structures (Eg. Hemoglobin and Myoglobin), forces stabilizing the structure of protein.

A handwritten signature in green ink, appearing to read 'Ryuy', with a horizontal line drawn underneath it.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

**Re-Accredited by NAAC with Grade "A" CHOICE BASED CREDIT SYSTEM FIRST YEAR B.Sc.
BIOCHEMISTRY SECOND SEMESTER**

(w.e.f. 2018-2019)

Unit-I : Nucleic Acids

Nature of nucleic acids. Structure of purines and pyrimidines, nucleosides, nucleotides. Stability and formation of phosphodiester linkages. Structure of Nucleic acids- Watson- Crick DNA double helix structure, introduction to circular DNA, super coiling, helix to random coil transition, denaturation of nucleic acids- hyperchromic effect, T_m -values. Types of RNA and DNA.

Unit-II: Porphyrins :

Prophyrins: Structure, properties and functions of heme, chlorophylls and cytochromes.

Unit-III : Introduction to Enzymes and Enzyme Catalysis

Introduction to biocatalysis, differences between chemical and biological catalysis. Nomenclature and classification of enzymes. Enzyme specificity. Active site. Principles of energy of activation, transition state. Interaction between enzyme and substrate- lock and key, induced fit models. Definition of holo-enzyme apo-enzyme ,coenzyme,cofactor.

Unit-IV : Enzyme Kinetics

Factors affecting the catalysis- substrate concentration, pH, temperature. Michaelis - Menten equation for uni-substrate reaction (derivation not necessary), significance of K_M and V_{max} . Enzyme inhibition- irreversible and reversible, types of reversible inhibitions- competitive and non-competitive.

Unit-V : Regulation of enzymes:

Regulation of enzyme activity- allosterism and cooperativity, ATCase as an allosteric enzyme, covalent modulation- covalent phosphorylation of phosphorylase, zymogen activation- activation of trypsinogen and chymotrypsinogen. Isoenzymes (LDH)

Unit-VI : Applications of Enzymes:

Industrial applications, Clinical applications and Immobilized Enzymes.



Practical : BCP-101: Qualitative Analysis

List of Experiments:

Preparation of buffers (acidic, neutral and alkaline) and determination of pH.
Titration curve of glycine and determination of pK and pI values.

Qualitative identification of carbohydrates- glucose, fructose, ribose/xylose, maltose, sucrose, lactose, starch/glycogen.

Qualitative identification of amino acids – histidine, tyrosine, tryptophan, cysteine, arginine.

Qualitative identification of lipids- solubility, saponification, acrolein test, Salkowski test, Lieberman-Burchard test.

Preparation of Osazones and their identification.

Absorption maxima of colored substances- *p*-Nitrophenol, Methylorange.

Absorption spectra of protein-BSA, nucleic acids- Calf thymus DNA.

Practical BCP-201: Nucleic acids and Biochemical Techniques (3 periods / week)

45 hrs List of Experiments:

Isolation of RNA and DNA from tissue/culture.

Qualitative identification of DNA, RNA and Nitrogen Bases

Isolation of egg albumin from egg white.

Isolation of cholesterol from egg yolk.

Isolation of starch from potatoes.

Isolation of casein from milk.

Separation of amino acids by paper chromatography.

Determination of exchange capacity of resin by titrimetry.

Separation of serum proteins by paper electrophoresis.

Separation of plant pigments by TLC

K.V.R. GOVT. DEGREE COLLEGE (W), KURNOOL. DEPARTMENT OF BIOCHEMISTRY

SKILL ENHANCEMENT COURSE: "MEDICAL LAB TECHNICIAN"

DURATION: 15 Days WEEK(3hours/day) - 2014 September 1st to September 20th SYLLUBUS:

Collection of blood. - Universal precautions - Methods of collection, venous puncture, finger puncture and vacutainer methods, materials required, procedures, precautions, uses of the sample and advantages of each method.

Preparation of anti coagulants Double oxalate, sodium citrate, EDTA, Heparin, action of each preparation, uses, disadvantages, quantity required.

RBC,WBC count: Methods [Micro dilution and bulk dilution], materials required, diluting fluids, preparation, procedures, advantages of each method, precautions, formula for calculation and clinical significance.

Platelet count: Morphology and functions of platelet, diluting fluids, procedure, formula for calculation and clinical significance.

Reticulocyte Count: Methods [dry & wet] staining, diluting fluids, normal Morphology and values, clinical significance.

Hemoglobin Estimation: Materials, procedure of Tallquist, Sahli's, Alkali, Haldane, Cyanmeth hemoglobin and Specific Gravity [S.G] method, advantages and disadvantages and clinical significance.

Estimation of PCV Macro & Micro methods, procedure of filling the tube, centrifuging and reading, values advantages of each method – normal values and clinical significance. - Estimation of Erythrocyte indices calculation and importance MCV, MCH, MCHC, RDW, color index.

ESR- methods used, procedure, stages, factors affecting and clinical significance.

CERTIFICATE COURSE: “ BASIC ASPECTS IN BIOINFORMATICS”

SYLLUBUS:

UNIT 1:

Description of biological database, sequence analysis – protein sequence and structure: *protein sequence, secondary structure, backbone conformation, super-condarstructure, tertiary protein structure, folds, domains, quaternary structure*. Similarity between protein sequences - concepts and tools. Similarity between protein structures - concepts and tools. Relationship between protein sequence and structure . protein structure Prediction

UNIT 2:

Computer training:

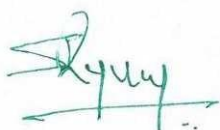
Sequence databases (*NCBI, Genebank, SwissProt*)

Sequence similarity searches with *Blast*

Sequence alignment and Multiple Sequence Alingment Viewing protein 3D structures with Rasmol or RasTop

☐ ☐ Protein structural databases (*Pdb, Dali, Cath*)

☐ ☐ Secondary structure prediction (*PDBSUM*)



HOMESCIENCE



RESOLUTIONS

The members of BOS in Home Science met on 30-06-2018 in the department of Home Science, KVR Govt. Degree College for Women(A), Kurnool under the chairmanship of Dr. Arati Chakra, I/C of the department of Home Science, discussed the proposals on the curriculum for the I year UG courses and passed the following resolutions.

The following resolutions are made and passed unanimously:

- Resolved to approve the theory and practical syllabus of I&II semester of I B.Sc. Home science as decided by the expert members and members of the Board of Studies (UG) Home Science.
 - In V semester Paper HSC 503. Textile finishes, few changes has been made for III B.Sc. home science.
 - The BOS resolved to recommend to the academic council for the approval of I year B.Sc. Home Science syllabus and Paper HSC 503of V semesterwith effect from the academic year 2018-19.
 - The BOS resolved to recommend to the academic council for the approval of the scheme of internal and external evaluation, practical examination syllabus and model paper.
 - The BOS resolved to recommend to the academic council for the approval of credits allotted to all the courses.
 - The BOS resolved to recommend to the academic council for the approval of list of paper setters and examiners.
-

Annexure-I
SYLLABUS FOR THE I & II SEMESTER 2018-19

**MODULE- HSC.101 PSYCHOLOGY & PERSONALITY
DEVELOPMENT**

Learning Outcome

- Develop an understanding of various psychological processes underlying human behavior.
- Stimulate the student to think, introspect and work on to develop their Personality

Theory

Unit I Psychology - Definition, scope and methods used – Experimental and

Non experimental research- observational, introspection, survey, case study/clinical and correlation research. Psychological tools, questionnaire and interview

- Branches of psychology - Pure and applied psychology
- Motivation- Definition, types of motivation, Need – classification- Maslow theory of hierarchy of need.
- Emotion- definition, function, components, dimension of emotion, types- positive and negative emotions.

Unit II Cognition and its processes-

- **Attention**-definition, function, types and determinants of attention.
- **Perception**: definition, stages and process of perception, perceptual organization and its principles- perceptual constancies and illusions.
- Factors affecting perception

Unit III Learning & Memory- Definition

- Methods of learning - Learning through association-classical and operant conditioning, learning by imitation - cognitive learning. Better study habits tips
- Memory- definition, methods of measuring retention, stages and types of memory
- Forgetting- causes of forgetting and strategies/methods to improve memory

Unit IV Intelligence – Definition, concepts of IQ, classification and tests of intelligence, factors affecting intelligence.

- Gardner theory of multiple intelligence
- Emotional Intelligence - definitions, dimensions and significance
- Aptitude and Interest- definition and role of attitude and aptitude in success

Unit V Personality- definition, dimensions, and importance of personality

- Types of personality- Traits perspective, Big five factor theory, Locus of control theory, and Self theory- self- concept and self esteem
- Factors affecting personality

PRACTICALS- Administration and Interpretation of various tests

1. Muller lyre illusion – Perception.
2. Interest Inventory
3. Raven's progressive Matrices – Intelligence.

4. Memory test
5. Self- concept and self-esteem - Personality

References:

1. Introduction to Psychology – Morgan C. T., King R. A.
2. Mangal, S.K, Introduction to Psychology.



MODULE-HSc. 102. HUMAN PHYSIOLOGY

Learning Outcome:

To introduce structure and function various system of the body

Theory

Unit I Introduction to various systems of the body

- Animal Cell: structure, functions of each component of the cell.
- **Skeletal system**-Classification of Bones and Joints
- **Nervous system**- Structure of neuron, reflex action , spinal cord , brain and their membrane, autonomic nervous system,

Unit II Digestive & Excretory system

- Structure and Process of digestion, functions of saliva, liver, stomach, gall bladder, and pancreas.
- Structure and functions of Kidneys, Ureters and Urinary Bladder
- Mechanism of urine formations.
- Skin - Structure and functions of skin.

Unit III Circulatory & Cardiovascular system

- Blood – Composition and functions of blood, Coagulation of blood & its significance. Blood groups and Rh factor
- Heart – Structure and functions of Human heart, Cardiac cycle.
- Blood Pressure – Systolic and diastolic Blood pressures

Unit IV Male & Female Reproductive System

- Anatomy of Spermatogenesis
- Structure and functions of Ovaries, fallopian tubes and uterus
- Menstrual cycle, ovulation and menopause.

Unit V Endocrine glands

- Function of pituitary gland, thyroid gland, adrenal gland.
- Respiration – process and disorders of respiration.

PRACTICALS

1. Slide of different tissues
2. Models of brain, skin and eye
3. Preparation of Blood Smear
4. Determination of blood groups.
5. Estimation of Hemoglobin.
6. Recording heart rate & blood pressure.

References:

1. Best and Taylor: Human Body.
2. Guyton A.C., & Hall, A. J. – Text Book of Medical Physiology.
3. K. Sembulingam – Essentials of Medical Physiology.
4. Chatterjee C. C.- Human Physiology.
5. N. Murugesu, 2000, Anatomy, Physiology and Human Health
6. Vidya Ratan, 2001, 7th edition, Handbook of Human Physiology, Jaypee Brothers Medical Publisher's Pvt. Ltd

MODULE-HSc.103. HEALTH, HYGIENE & MICROBIOLOGY

Learning Outcome:

- To understand the concept of good health and means to achieve it.
- Understand the , classification morphology, growth and reproductive features of various micro organisms
- Acquire the skills in various sterilization techniques

Theory

Unit I Health – Definition & meaning

- Dimension of health – social, mental, spiritual, emotional, vocational
- Determinants of Health
- Indicators of health- concept of Mortality, Morbidity, Disability

Unit II Classification & Study of Microorganisms- in terms of morphology, growth, Nutrition and Reproduction

- Bacteria, Virus, Yeasts, Algae and Mould
- Study of Parasites – Entamoeba, Hookworm, Tapeworm

Unit III Mode of infection

- Bacterial diseases- Tuberculosis, Diphtheria, Tetanus, Cholera, Dysentery.
- Viral Diseases: Influenza, Measles, Poliomyelitis, AIDS
- Diseases transmitted by Mosquitoes- malaria, Dengue.

Unit IV Prevention & Control

- Hygiene - Meaning and importance of personal hygiene
- Control of Micro-organisms – Sanitation, Sterilization & Disinfection- Physical and chemical method.

Unit V Immunity

- Infection- sources, mode of transmission and methods of preventing infections
- Immunity- definition & types
- Immunization schedule

PRACTICAL

1. The use and care of Microscope
2. Study of permanent slides of Microbes
3. Visit to Kurnool Medical College
4. Staining and slide preparation.
5. Hanging Drop experiments

References:

1. Frazier, W. Candwestnoff, D.C (1997) Food Microbiology, Tata McGraw Hill
 2. A.S. Rao 2001 Introduction to microbiology, Prentice Hall of India
 3. Anna k. Joshua, Microbiology, popular book depot, Madras
 4. R. Ananthanarayanan, C.K.J. Paniker, 2001, Orient Longman Private Limited.
 5. General Microbiology , 1982, power &Daginawala, Himalaya Publishing House
 6. Stanier R. Y., Adelberg, E.A. and Ingraham, J.L. (1989) General Microbiology.
 7. Atlas R. M. (1988) Microbiology, fundamentals and application. Micmillon N. Y.
-

HSC.201. INTRODUCTION TO HUMAN DEVELOPMENT

Learning Outcome

- Introduction the concepts, importance and scope of human development
- Know about various areas and factors affecting growth and development
- Learn about pregnancy and care of the newborn

Theory

Unit I: Introduction

- Human Development: Definitions and interdisciplinary nature
- Scope of the Human Development in contemporary society
- Domains and stages of development

Unit II: Lifespan Approach to Development

- Concepts and Principles of growth and development – factors affecting development
- Heredity and Environment, Maturity and Learning.
- Stages of Life span – Developmental tasks

Unit III: Prenatal development

- Prenatal development – stages- factors affecting prenatal development
- Pregnancy - signs and symptoms of pregnancy, minor and major complication
- Care during pregnancy

Unit IV: Delivery and Birth process

- Stages of delivery & types of birth
- Physiological changes and adjustments in post natal life
- Postnatal care of nursing mother

Unit V: Care of New Born Baby

- Characteristics of new born - Care of full term and premature babies
- Reflexes in new born
- Stimulation- areas and its importance

PRACTICALS

1. Developmental assessment of infants- APGAR test and Anthropometry
2. Study of reflexes in newborn
3. Survey of existing Cultural practices related to pregnancy, delivery and care of the newborn
4. Resource file -Exploring sources of information about children and their families using print and audio-visual media

Reference

1. Grace.J.Craig, 1976, Human Development, Prentice Hall INC, New Jersey, p-p 1-3.
 2. Papalia D.E and Old S.W. 1978, Human Development, McGrawHillInc., London.
 3. Kaluger, George and Kaluger, Merriam Fair (1979). "Human Development: The span of life" ,C.V Mosby Company, New York.
 4. Santrock, J. W. (2006). Child development. New York: McGraw Hill.
-

MODULE –HSc. 202. BIOCHEMISTRY

Learning Outcome:

- To help the students to understand the importance of biochemistry as the basis for nutrition.
- To help the students to understand the macro nutrients and micro nutrients in terms of their composition, classification, sources, functions and metabolism

Theory

Unit I - Introduction to Biochemistry

- Definition and scope of biochemistry.
- Relevance of biochemistry to nutrition and health.
- Acid and Base balance, pH and Buffer
- Oxidation and Reduction reaction

Unit II Chemistry of Carbohydrates

- Composition, Classification and Chemical Properties of Carbohydrates
- Metabolism of carbohydrates - aerobic and anaerobic metabolism of Glucose Glycolysis, Gluconeogenesis, TCA cycle. Role of hormone in maintaining of blood glucose level

Unit III- Chemistry of Lipids

- Composition, Classification and Properties of Lipids and Fatty Acid
- Lipids metabolism- β -Oxidation and biosynthesis of fatty acids, Ketone bodies

Unit IV- Chemistry of Proteins

- Composition, classification and Properties
- Metabolism of proteins - urea cycle

Unit V-Enzymes: Properties, classification, nature and mode of action, activation-inhibition and factors affecting enzyme activity.

PRACTICALS

1. Qualitative analysis of carbohydrates- monosaccharaides and disaccharides
2. Iodine test for starch solution.
3. Qualitative analysis of Protein and amino acids
4. Qualitative analysis of Lipids- solubility, emulsification, Iodine test for unsaturated fatty acid

References

1. West E. S. Todd; Textbook of Biochemistry – Amerind Publishing Co. Pvt. Ltd.
 2. Bamji, M. S, Prahlada Rao.N & Vinodini Reddy, 2003, Text book of Human Nutrition, Oxford & IBH Publishing Co. PVT. LTD, New Delhi p-p 105-107.
 3. Davidson. S.S. & Passmore R. 1966, Human Nutrition and Dietetics, the Williams and Wilkins company, p-p 145-157.
 4. Swaminathan, M. 1997, Essentials of Food and Nutrition, vol I Second edition, BAPPCO, Bangalore.p-p 383-385.
-

HSC.203.BASIC NUTRITION

Learning Outcome:

1. To help the students to understand the basic concepts of nutrition
2. To orient about macro nutrients and micro nutrients in terms of function and deficiency diseases

Theory

Unit I - Definition and introduction to nutrition

- **MACRONUTRIENTS**- RDA--sources, function, deficiency-clinical manifestations
1)Carbohydrates

2)Lipid 3)Protein

Unit II VITAMINS: sources, function deficiency diseases

- Fat soluble vitamins-A ,D ,E and K
- Water soluble vitamins--B complex vitamins and vitamin C-Thiamine, Riboflavin, Niacin, Pyridoxine, Folic acid, Cyano-cobalamine

Unit III MINERALS- Sources, function deficiency diseases

- Calcium, Iron, Iodine, Fluorine, Zinc

Unit IV Energy value of foods-Determination of gross energy value of foods using Bomb calorimeter.

- Computing energy requirements of the body based on basal metabolic rate, physical activity and thermic effect of food
- Basal metabolism-factors affecting B.M.R (Basal metabolic rate)

Unit V Relationship between food, nutrition, health and diseases

- Importance of water and water balance – functions, sources, requirement – effect of deficiency

PRACTICALS

1. Identification of nutrient rich sources of foods, their seasonal availability and price.
2. Study of nutrition labeling on selected foods.
3. List out low cost nutrient rich foods.
4. List out nutrient foods for different income groups.

REFERENCES

1. Bamji MS, Krishnaswamy K, Brahman GNV (2009). Textbook of Human Nutrition, 3rd edition.Oxford and IBH Publishing Co. Pvt. Ltd.
2. Wardlaw MG, Insel PM (2004). Perspectives in Nutrition, Sixth Edition Mosby
- ~~3. Swaminadhan S, Advanced Text book on foods & nutrition,(1985) Vol. I&II~~
4. VijayaKhader, (2000)Food, nutrition & health, Kalyan Publishers

HSC101. PSYCHOLOGY & PERSONALITY DEVELOPMENT

Model question Paper

**K.V.R. Government Degree College for Women (A) I
Semester, I BSc. Home Science**

EXTERNAL THEORY EXAMINATION, 2018– 19

Time: 3 hours

Max. Marks: 60

Section - A

I. Answer any five of the following questions. (5x4= 20 marks)

1. Define Psychology and write its scope
2. Describe types of observation
3. What are the factors affecting attention?
4. Write about types of forgetting.
5. Define Emotional Intelligence and its significance in our life.
6. Write about positive emotions.
7. Write the factors affecting Intelligence
8. Explain the process of Perception.

Section - B

II. Answer the following questions (EitherOr Type) (5 x 8= 40marks)

9. a. Write about various branches of Psychology
or
b. Explain about experimental research
10. a. Explain the types of motivation.
or
b. Explain Maslow theory of hierarchy of needs
11. a. Write the stages and types of memory
or

b. Explain the strategies to improve memory

12. a. Explain classical conditioning
or

b. Describe Operant conditioning

-
13. a. Describe Gardner theory of Multiple Intelligence.
or

b. Write the factors influencing Personality.

K.V.R. Government College for Women (A)
Model Question Paper

External Theory Examination, 2018-2019

Semester, I B.Sc. Home Science
HSC102. HUMAN PHYSIOLOGY

Time: 3 hours

Max. Marks: 60

Section - A

I. Answer any five of the following questions. (5x4= 20 marks)

1. Function of Neuron.
2. Write about Synovial Joints.
3. E.C.G and its significance.
4. Write about Coronary circulation.
5. Write about mechanism of Respiration.
6. Functions of Cerebro Spinal fluid.
7. Autonomic nervous system.
8. Write about Menstrual Cycle.

Section - B

II. Answer the following questions (EitherOr Type) (5 x 8= 40marks)

9. a. Explain the structure and functions of cell.

Or

- c. Describe the mechanism of respiration.

10. a. Classify and describe the different joints of skeleton.

Or

- b. Explain the functions of blood.

11. a. Explain the structure and functions of the Heart.

Or

- b. Explain different blood groups.

12. a. Describe the process of digestion with diagram.

Or

- b. Explain the functions of liver.

13. a. Explain about central nervous system.

Or

- b. Define Hormones, explain about Pituitary Gland.

HSC103. HEALTH, HYGIENE&MICROBIOLOGY

Model question Paper

**K.V.R. Government Degree College for Women (A) I
Semester, I BSc. Home Science**

EXTERNAL THEORY EXAMINATION, 2018-19

Time: 3 hours

Max. marks: 60

Section - A

I. Answer any five of the following questions. (5x4= 20 marks)

1. Write the Determinants of health
2. Write about Chlamydomonas
3. Write about types of Flagella?
4. Explain the classification of Microorganisms.
5. Define Dengue and prevention of Dengue
6. Discuss the importance of Hygiene
7. Write about Poliomyelitis.
8. Discuss about Yeast. **Section - B**

II. Answer the following questions (EitherOr Type) (5 x 8= 40marks)

9. a. Write the dimensions of health
or
d. Discuss in detail the indicators of health
10. a. Explain the structure of Bacterial cell.
or
b. Write about Entamoeba Histolytica
11. a. Discuss in detail about Diphtheria
or
b. Write the infection, prevention and control measures of AIDS
12. a. Write the physical methods of Sterilisation
or
b Write the chemical methods of Disinfection
13. a. Define immunity and types of immunity
or
b. Write about need and importance of personal hygiene .

**HSC 201. Human Development
Model question Paper**

**K.V.R. Government Degree College for Women (A) I
Semester, I BSc. Home Science**

EXTERNAL THEORY EXAMINATION, 2018-19

Time: 3 Hours

Max. Marks: 60

PART-A

I. Answer any Five of the following questions

5x4=20 Marks

1. Write the scope of Human Development.
2. Principles of Growth and Development.
3. Write the abnormalities or developmental disorders.
4. Explain the influence of environment in human development.
5. Write the stages of life span.
6. Write about APGAR Test.
7. Explain the stages of delivery.

PART -B

II. Answer the following questions 5x8=40 Marks

8. Define Human Development? Explain the domains / Areas of development.
OR
Explain the factor affecting growth of development.
 9. Explain the stages of prenatal development.
OR
Write the complications during Pregnancy.
 10. Explain the types of birth process.
OR
Describe the postnatal care of nursing mother.
 11. Write the characteristics of new born.
OR
Explain the Physiological changes and adjustments in postnatal life.
 12. What is reflex? Explain the reflexes in new born.
OR
Write the developmental tasks in stages of life span.
-

HSC 202. BIOCHEMISTRY

Model question Paper

**K.V.R. Government Degree College for Women II
Semester First Year BSc. Home Science**

EXTERNAL THEORY EXAMINATION, 2018 -19

PART- A

Time: 3 hours

Maximum marks: 60

I. Answer any FIVE of the following questions. (5 x 4 = 20 marks)

1. Write the relevance of Biochemistry to Nutrition and Health.
2. What is pH and write its importance.
3. Explain Oxidation and Reduction reaction with suitable example.
4. Describe the use and importance of polysaccharide.
5. Write the classification of fatty acids.
6. What is Transamination and Deamination?
7. Explain the properties of fatty acids.
8. Write the classification of amino acids.

PART- B

II. Answer the following Questions (5 x 8 = 40 Marks)

9. a. Write the classification of carbohydrates.
OR
b. Write the classification of protein.
 10. a. Explain Citric acid cycle.
OR
b. Explain Urea Cycle
 11. a. Discuss briefly on physical and chemical properties of protein
OR
b. Write the classification of enzymes
 12. a. Describe the Biosynthesis of fatty acid
OR
b. Explain Glycolysis
-

13. a. Explain the mechanism of enzyme action and factors affecting enzyme activity
OR
b. Write the classification and properties of enzymes



K.V.R. Government College for Women (A)

Model question Paper

External Theory Examination, 2018-19

II Semester, I BSc. Home Science

HSC 203: BASIC NUTRITION

Time: 3 hours

Maximum marks: 60

Section A

I. Answer any FIVE of the following questions. (5x4= 20marks)

1. Define nutrition? Write about good nutrition?
2. Write the sources of Vitamin "A".
3. What are the functions of Iron?
4. Write about the deficiency of Vitamin "E"?
5. What is the RDA of proteins for different age groups?
6. What is BMI?
7. Write about water balance.
8. Write the classification of carbohydrates?

Section B

II. Answer the following questions (5x 8 = 40 marks)

9. a. Write the functions and effect of deficiency
OR
b. Explain in detail about Protein.
 10. a. write in detail about Vitamin "K" ?.
OR
b. Write in detail about Niacin?
 11. a. Write in detail about fluorine ?
OR
b. Write the sources, functions and deficiency diseases of Zinc?
 12. a. Explain the sources and functions of carbohydrates?.
OR
b. Explain in detail about "Lipids"?.
 13. a. What are factors affecting BMR?
OR
b. Discuss the interrelation
-

MATHEMATICS



RESOLUTIONS

The members of BOS in Mathematics met on 05-07-2018 in the Department of Mathematics, KVR Govt. Degree College for Women(A), Kurnool under the chairmanship of Dr.M.Bharathi, In-charge of the department of Mathematics, discussed the proposals on the curriculum for the I year UG course and passed the following resolutions.

The following resolutions are made and passed unanimously.

1. Resolved to approve the APSCHE syllabus in Mathematics for I B.Sc., Semester-I and Semester-II as decided by the expert members of the Board of Studies (UG) Mathematics.
 2. In Semester -I and Semester –II for each paper the weightage of external examination is 60 Marks(Pass marks: 24) , and weightage for the internal assessment is 40 marks(as per the instructions of CCE ,2017-18).
 3. Resolved to approve the question paper pattern for II B.Sc in Sem-III and Sem-IV, the external examination is for 60 Marks(Pass marks: 24) , and weightage for the internal assessment is 40 marks(as per the instructions of CCE,2017-18).
 4. The division for 40 marks is as follows.
 - (i)For Internal Examinations 20 marks(Pass marks 8) in each semester. (Average of two to be taken).
 - (ii)For Seminars/Viva 5 Marks, for Assignment 5 Marks, for Attendance 5 marks and for Surprise test 5 marks.

Total Internal Assessment Marks = 20 + 20 = 40 .
 5. Resolved to approve the Question paper pattern for external exam for I-B.Sc. Semester-I, Semester-II and II B.Sc. Semester-III , Semester –IV from the academic year 2018-19 as prescribed in the proforma in **Annexure-III** .
 6. Resolved to approve the Question paper pattern for internal assessment exam for I-B.Sc. Semester-I , Semester-II and II B.Sc. Semester-III , Semester –IV from the academic year 2018-19 as prescribed in the proforma in **Annexure-IV** .
 7. Justification report for I B..Sc. syllabus from the academic year 2018-19 as prescribed in the proforma **Annexure - V**
 8. Resolved to recommend the panel of examiners and paper setters as prescribed in the proforma in **Annexure –VI** from the academic year 2018-19.
 9. It is resolved that the BOS chairman is authorised to change in any modification in future according to the instructions of CCE,AP and Rayalaseema University.
-

Sl.No.	Name & Designation	Acted as	Signatures
1.	Dr. M. Bharathi, Incharge of Dept.of Mathematics , KVR Govt. College for Women(A), Kurnool	Chairman	<i>Bharathi</i> 5-7-18
2.	Dr.S.Sreenadh, Professor, Dept. of Mathematics, Sri Venkateswara University, TIRUPATI , 9490418165	University Nominee	<i>S. Sreenadh</i> 5/7/18
3	Dr.K. Subhasini, Associate Professor in Mathematics, G.Pullareddy Engineering College ,Kurnool . 9440254730	Educationalist	<i>K. Subhasini</i>
4	Dr. P.V.Bhaskar Reddy, In-Charge, Department of Mathematics, Sri Bala Siva Yogi Maharaj Degree College Kurnool. 9291524945	Subject Expert	<i>P.V. Bhaskar Reddy</i>
5	Sri .T. Chandra Sekhar, Lecturer in Mathematics, Silver Jubilee Govt. College(A), Kurnool. 9441800514	Subject Expert	<i>T. Chandra Sekhar</i> 05/07/2018
6.	Dr. K. Rajani Devi, Lecturer in Mathematics , KVR Govt. College for Women(A), Kurnool	Member	<i>K. Rajani Devi</i>
7.	Smt. S. Shajahan Begum, Lecturer in Mathematics, St. Joseph Degree College, Kurnool , 9014197440	Alumni	<i>S. Shajahan Begum</i>
8.	G.Tejaswini, III MPcs KVR Govt. College for Women(A), Kurnool	Representative from students	<i>G. Tejaswini</i>
9.	T.Aparna, III MPCs KVR Govt. College for Women(A), Kurnool	Representative from students	<i>T. Aparna</i>

ANNEXURE - II

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

CHOICE BASED CREDIT SYSTEM (w.e.f. 2016-17)

FIRST YEAR B.Sc. MATHEMATICS

SECOND SEMESTER

CORE COURSE-II: SOLID GEOMETRY(w. e. f. 2018-2019)

UNIT – I (12 hrs) : The Plane :

Equation of plane in terms of its intercepts on the axis, Equations of the plane through the given points, Length of the perpendicular from a given point to a given plane, Bisectors of angles between two planes, Combined equation of two planes, Orthogonal projection on a plane.

UNIT – II (12 hrs) : The Line :

Equation of a line; Angle between a line and a plane; The condition that a given line may lie in a given plane; The condition that two given lines are coplanar; Number of arbitrary constants in the equations of straight line; Sets of conditions which determine a line; The shortest distance between two lines; The length and equations of the line of shortest distance between two straight lines; Length of the perpendicular from a given point to a given line;

UNIT – III (12 hrs) : Sphere :

Definition and equation of the sphere; Equation of the sphere through four given points; Plane sections of a sphere; Intersection of two spheres; Equation of a circle; Sphere through a given circle; Intersection of a sphere and a line; Power of a point; Tangent plane; Plane of contact; Polar plane; Pole of a Plane; Conjugate points; Conjugate planes;

UNIT – IV (12 hrs) : Sphere & Cones :

Angle of intersection of two spheres; Conditions for two spheres to be orthogonal; Radical plane; Coaxial system of spheres; Simplified form of the equation of two spheres.

Definitions of a cone; vertex; guiding curve; generators; Equation of the cone with a given vertex and guiding curve; Enveloping cone of a sphere; Equations of cones with vertex at origin are homogenous; Condition that the general equation of the second degree should represent a cone; Condition that a cone may have three mutually perpendicular generators;

UNIT – V (12 hrs) : Cones & Cylinders :

Intersection of a line and a quadric cone; Tangent lines and tangent plane at a point; Condition that a plane may touch a cone; Reciprocal cones; Intersection of two cones with a common vertex; Right circular cone; Equation of the right circular cone with a given vertex; axis and semi-vertical angle.

Definition of a cylinder; Equation to the cylinder whose generators intersect a given conic and are parallel to a given line; Enveloping cylinder of a sphere; The right circular cylinder; Equation of the right circular cylinder with a given axis and radius.

Prescribed Text Book: A text book of Mathematics for BA/B.Sc Vol 1, by N. Krishna Murthy & Others, Published by S. Chand & Company, New Delhi.

Reference Books :

1. Analytical Solid Geometry by Shanti Narayan and P.K. Mittal, Published by S. Chand & Company Ltd. 7th Edition.
2. 3. A text Book of Analytical Geometry of Three Dimensions, by P.K. Jain and Khaleel Ahmed, Published by Wiley Eastern Ltd., 1999.

S. Sreenivasulu Reddy
5/7/18

PHYSICS





KVR Govt. College for Women (Autonomous), Kurnool

Re-Accredited by NAAC with 'A' Grade

Board of Studies Meeting in Physics

DEPARTMENT OF PHYSICS

(w.e.f. 2018-19)

Minutes of Board of Studies Meeting held in the Dept. of Physics, KVR Govt. College for Women (Autonomous), Kurnool on **28-06-2018** at 10:30 A.M.

BOS Members:

S.No.	Name & Designation	Acted as
1.	Dr.C.P.LakshmiPrasuna, Incharge of Dept. of Physics , KVR Govt. College for Women(A), Kurnool	Chairman
2.	Smt. Talat Parveen, Lecturer in Physics, KVR Govt. College for Women(A), Kurnool	Member
3.	Smt. V.S. Noorjahaan, Contract Lecturer in Physics, KVR Govt. College for Women(A), Kurnool	Member
4.	Sri S. Purneswara Reddy, Contract Lecturer in Physics, KVR Govt. College for Women(A), Kurnool	Member
5.	Prof. C. V. Krishna Reddy, Department of Physics, Rayalaseema University	University Nominee
6.	Dr. D. Ramakrishna Reddy, Principal Govt. Degree College, Yerraguntla, Kurnool(Dist)	Subject Expert
7.	Smt.R.Madhuri, Incharge of Dept. of Physics, S.L.M. Degree College, Yemmiganur, Kurnool(Dist)	Subject Expert
8.	Smt.R.Suneetha, Incharge of Dept. of Physics , Silver Jubilee Govt. College(A), Kurnool	Alumni
9.	Sri.P.Prabhakara Naidu. Development Officer, NREDCAP Kurnool	Representative from Industry
10.	G. Geetha Sri , III MPCs KVR Govt. College for Women(A), Kurnool	Representative from students
11.	B. Kalavathi , III MPC KVR Govt. College for Women(A), Kurnool	Representative from students

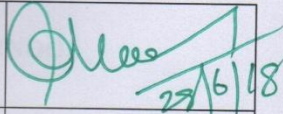
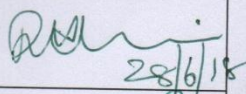
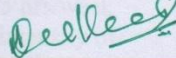
RESOLUTIONS

The members of BOS in Physics met on 28-06-2018 in the department of Physics, KVR Govt. College for Women (Autonomous), Kurnool under the chairmanship of Dr. C. P. Lakshmi Prasuna, I/C of the department of Physics, discussed the revision of curriculum in Physics for the III year UG Course for non-mathematics combination and for I year UG course for mathematics combination, passed the following resolutions.

1. Resolved to approve V, VI Semesters for III Year course plan (non-Mathematics Combination) under CBCS and to follow the new syllabus to the following papers from the academic year – 2018-19:
 - a) DSC -2 Core Paper V as prescribed in the Annexure –I.
 - b) DSC -2 Core Paper VI as prescribed in the Annexure – II.

- c) DSC -2 Elective Paper VII C as prescribed in the Annexure -III.
- d) DSC -2 Cluster elective paper VIII- (C -1) as prescribed in the Annexure -IV.
- e) DSC -2 Cluster elective paper VIII- (C -2) as prescribed in the Annexure -V.
- f) DSC -2 Cluster elective paper VIII- (C -3) as prescribed in the Annexure -VI.
2. Resolved to approve lab practical for V and VI Semester for III year non-mathematics students under CBCS and to follow new list for the following papers from the Academic year - 2018-19.
 - a) DSC - 2 Lab practical V as prescribed in the Annexure -Ia.
 - b) DSC - 2 Lab practical VI as prescribed in the Annexure -IIa.
 - c) DSC - 2 Elective paper Lab practical VII C as prescribed in the Annexure -IIIa.
 - d) DSC - 2 Cluster elective paper Lab practical VIII -(C - 1) as prescribed in the Annexure -IVa.
 - e) DSC - 2 Cluster elective paper Lab practical VIII -(C - 2) as prescribed in the Annexure -Va.
 - f) DSC - 2 Cluster elective paper Lab practical VIII -(C - 3) as prescribed in the Annexure -VIa.
3. Resolved to approve the syllabus and credit pattern for I & II semesters for mathematics combination of students from the academic year 2018-19. VII a ,VII b, VII c, VII d
4. Resolved to approve justification report in the Annexure- VIII.
5. Resolved to approve question paper pattern for theory and practical for Semester V & VI as prescribed in Annexure - IX & X from the Academic year - 2018-19.
6. Resolved to approve model question paper for the theory papers in the Semesters V & VI as prescribed in Annexure - XI, XII , XII (a ,b, c,d) from the Academic year - 2018-19.
7. Resolved to approve model question paper for the theory papers in the Semester I & II as prescribed in Annexure - XIII from the Academic year - 2018-19.
8. Resolved to approve Examination pattern as Internal - 40 and External - 60 for the First year students who have joined for the academic year 2018 - 2019 as prescribed in annexure - XIV
9. Resolved to recommend panel of examiners and paper setters as prescribed in Annexure - XV from the Academic year - 2018-19.

S.N o.	Name & Designation	Acted as	Signature
1.	Dr.C.P.Lakshmi Prasuna, Incharge of Dept. of Physics , KVR Govt. College for Women(A), Kurnool	Chairman	C.P. Lakshmi Prasuna
2.	Smt. Talat Parveen, Lecturer in Physics, KVR Govt. College for Women(A), Kurnool	Member	Talat Parveen
3.	Smt. V.S. Noorjahaan, Contract Lecturer in Physics, KVR Govt. College for Women(A), Kurnool	Member	V.S. Noorjahaan
4.	Sri S. Purneswara Reddy, Contract Lecturer in Physics, KVR Govt. College for Women(A), Kurnool	Member	S. Purneswara Reddy
5.	Prof. C. V. Krishna Reddy, Department of Physics, Rayalaseema University	University Nominee	C.V. Krishna Reddy

6.	Dr. D. Ramakrishna Reddy, Principal Govt. Degree College, Yerraguntla, Kurnool(Dist)	Subject Expert	 28/6/18
7.	Smt. R. Madhuri, Incharge of Dept. of Physics, S.L.M. Degree College, Yemmiganur ,Kurnool(Dist)	Subject Expert	 28/6/18
8.	Smt. R. Suneetha, Incharge of Dept. of Physics , Silver Jubilee Govt. College(A), Kurnool	Alumni	
9.	Sri P. Prabhakara Naidu. Development Officer, NREDCAP Kurnool	Representative from Industry	
10.	G. Geetha Sri , III MPCs KVR Govt. College for Women(A), Kurnool	Representative from students	G. Geetha Sri
11.	B. Kalavathi , III MPC KVR Govt. College for Women(A), Kurnool	Representative from students	B. Kalavathi

1. Derivation of expression for capacity due to (i) a parallel plate capacitor with and without dielectric, energy stored in a capacitor, Di-electrics with examples, effect of electric field on dielectric medium; (2) electric polarization P, permeability & susceptibility (Definitions only) - relation between D, E and P

UNIT-III (16 marks) Current electricity: Current and current density, drift veloc. Expression, Ohm's law, combination of resistors, Kirchhoff's laws - balanced and unbalanced bridge, Carey Foster's bridge - experimental measurement of temperature coefficient of resistance

UNIT-IV (16 marks) Electromagnetism: Magnetic induction B, magnetic flux - Biot - Savart's law, magnetic field due to (i) along straight conductor carrying current (ii) on the axis of a circular coil carrying current (iii) solenoid. (No derivation-qualitative treatment only)

Also derive expression for the force on (i) current carrying conductor in the magnetic field; Hall effect and its importance-Faraday's law of electromagnetic induction.

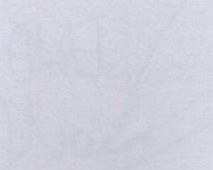
UNIT-V (16 marks) Electromagnetism: Mutual induction and their units, self inductance of a long solenoid

UNIT-VI (16 marks) Electronics: Band theory of solids PN junction diode, Zener diode and its characteristics, half and full wave rectifiers (semiconductor type) (working qualitative treatment only), Bridge type full wave rectifier (qualitative ideas only) PNP and NPN transistors (pin diagram) - Transistor configurations - CE transistor characteristics (qualitative ideas) Number system, conversion of binary to decimal and vice versa, De Morgan's theorems statements - logic gates - verification of truth tables, NAND and NOR gates as universal gates, Half and Full adders.

REFERENCE BOOKS

1. P.N. Physics, Vol.3, Telugu Academy, Hyderabad
2. Modern Physics by R. Murugesan and Krishna Siva Prasad - S. Chand & Co.
3. Electricity and Magnetism, Brijlal and Sachdevanayam, Ratan Publication, India
4. Physics for Biology & Pre-medical Students - Dr. Burns & SG MacDonald, Addison-Wesley
5. Principles of Electronics, V.K. Mehta, S.Chand & Co.
6. Digital Principles and Applications, A.P. Malvino and D.P. Leach, 4th, Cengage Learning

Signature of the university coordinator

Signature of the subject Experts: 1.  2. 

ANNEXURE - I
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – V Semester B.Sc. (Physics)
DSC – 2 Paper V: Electricity, Magnetism & Electronics
(For Non-Maths Combinations)
w.e.f – 2018-2019

Work load: 60 hrs per semester

3 hrs/week

UNIT-I(15 hrs)Electric field and potential: Coulomb's law – electric field and intensity of electric field –intensity of electric field due to i) a point charge–concepts of electric dipole and dipole moment. - *couple acting on a dipole in uniform electric field-Electric lines of force & properties of electric lines of force-* Electric flux, Gauss's law statement and its proof- applications of Gauss Law to (1) Uniformly charged sphere (2) an infinite conducting sheet of charge (No Derivation- qualitative ideas only). Electrical potential – potential due to a point charge, Equi-potential surfaces with examples.

UNIT-II(10 hrs)Capacitance and dielectrics: Electric capacitance – *Principle of capacitor-* Derivation of expression for capacity due to i) a parallel plate capacitor with and without dielectric, Energy stored in a capacitor, Di-electrics with examples, effect of electric field- electric displacement D, electric polarization P, permeability & susceptibility (Definitions only) – relation between D, E and P

UNIT-III (10 hrs)Current electricity: Current and current density, drift velocity expression, *Ohm's law-Limitations of Ohms law Resistivity-combination of resistors-Kirchhoff's laws* – statement and explanation and application to Wheatstone bridge, Carey-Foster's bridge- experimental measurement of temperature coefficient of resistance-

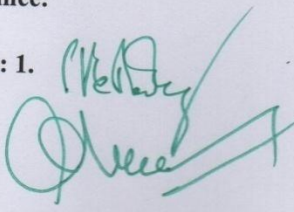
UNIT-IV (15 hrs)Electromagnetism: Magnetic induction B, magnetic flux – Biot –Savart's law, magnetic induction due to (i) along straight conductor carrying current (ii) on the axis of a circular coil carrying current (iii) solenoid, (No derivation-qualitative treatment only) Ampere's law – derivation of expression for the force on (i) current carrying conductor in the magnetic field, Hall effect and its importance-Faraday's law of electromagnetic induction, Lenz's law – Phenomena of self induction, Mutual induction and their units, *self inductance of a long solenoid*

UNIT-V(12 hrs)Basic Electronics: *Band theory of solids* PN junction diode, Zener diode and its V-I characteristics, half and full wave rectifiers (semiconductor type) (working qualitative ideas only). Bridge type full wave rectify- (qualitative ideas only) PNP and NPN transistors (pin diagram) - Transistor configurations – CE transistor characteristics (qualitative ideas) Number system, conversion of binary to decimal and vice versa, De Morgans's theorems statements - logic gates – verification of truth tables, NAND and NOR gates as universal gates, Half and Full adders.

REFERENCE BOOKS

1. B.Sc., Physics, Vol.3, Telugu Academy, Hyderabad
2. Modern Physics by R. Murugesan and Kiruthiga Siva Prasath – S. Chand & Co.
3. Electricity and Magnetism, Brijlal and Subramanyam. Ratan Prakashan Mandir.
4. Physics for Biology & Premedical Students –DN Burns & SG MacDonald, Addison Wiley.
5. Principles of Electronics, V.K. Mehta, S.Chand & Co.,
6. Digital Principles and Applications, A.P. Malvino and D.P. Leach, Mc GrawHill Edition

Signature of the university nominee: _____

Signature of the subject Experts: 1. 

2. 
28/6/18

Annexure – I(a)
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – V Semester B.Sc.(Physics)
DSC – 2 Lab Practical V
w.e.f – 2018 -2019

Work load: 30 hrs **3hrs/week**
Minimum of 6 experiments to be done and recorded

1. Figure of merit of a moving coil galvanometer.
2. LCR circuit series/parallel resonance, Q factor.
3. Determination of ac-frequency –sonometer.
4. Verification of Kirchoff's laws and maximum power transfer theorem.
5. Field along the axis of a circular coil carrying current.
6. PN Junction Diode Characteristics.
7. Zener Diode Characteristics.
8. Transistor CE Characteristics- Determination of hybrid parameters.
9. Logic Gates- OR,AND,NOT and NAND gates. Verification of Truth Tables.
10. Verification of De Morgan's Theorems.
11. Bridge Rectifier

Signature of the university nominee:

Signature of the subject Experts: 1.

2.

ANNEXURE - II
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – V Semester B.Sc. (Physics)
DSC – 2 Core Paper VI: Modern Physics & Medical Physics
(For Non - Maths Combination)
w.e.f – (2018-2019)

Work load: 60 hrs per semester

3hrs/week

UNIT-1(12 hrs)Spectroscopy:Introduction - Bohr's theory of Hydrogen atom – spectral series of Hydrogen atom, Frank Hertz experiment. Zeeman effect - Experimental verification – Paschen Back effect – Stark effect – Explanations (elementary ideas only) - Raman effect, hypothesis, classical and quantum theory of Raman effect. Experimental arrangement for Raman effect and its application.

UNIT-II (10 hrs)Fundamentals of quantum mechanics:Photoelectric effect – Explanation through demonstration, Einstein's Photoelectric equation – its verification by Millikan's experiment –theory of Compton effect (no derivation) and its experimental verification –

UNIT-III (10 hrs) Matter Waves and uncertainty principle:Dual nature of radiation- de Broglie's theory of matter waves, expression for wavelength,properties of matter waves, Davisson and Germer experiment on electron diffraction –Heisenberg's uncertainty principle for position and momentum (x and p), energy and time (E and t).Experimental illustrations of uncertainty principal, Complementary principle of Bohr.

UNIT-IV: (12 hrs) Radioactivity:The nature of radioactive emissions, the law of Radioactive decay, derivation, decay constant, Half life and mean life periods - derivations, units of radio activity, Carbon and Uranium dating (explanation) - Age of earth and rocks, Radioactive isotopes as tracers, *Applications of radioactive isotopes.*

UNIT-V (16 hrs)i) Crystal Structure:Amorphous and crystalline materials, unit cell, Miller indices, reciprocal lattice, types of lattices, diffraction of X-rays by crystals, Bragg's law, experimental techniques, Laue's method and powder diffraction method.

ii) Superconductivity:Introduction - experimental facts, critical temperature - critical field - Meissner effect –Isotope effect - Type I and type II superconductors - BCS theory (elementary ideas only) -applications of superconductors.

REFERENCE BOOKS

1. B.Sc Physics, Vol.4, Telugu Academy, Hyderabad.
2. Molecular Structure and Spectroscopy by G. Aruldas. Prentice Hall of India, New Delhi.
3. Physics for Biology & Premedical Students –D.N. Burns & SG Mac Donald, Addison Wiley.
4. Modern Physics by R. Murugeshan and Kiruthiga Siva Prasath. S. Chand & Co.
5. Medical Physics, J.R. Cameron and J.G.Skofronick, Wiley (1978)
6. Physics of Radiation Therapy : F M Khan - Williams and Wilkins, Third edition (2003)
7. Physics of the human body, Irving P. Herman, Springer (2007).
8. The Physics of Radiology-H E Johns and Cunningham.

Signature of the university nominee:

Signature of the subject Experts: 1.

2.

ANNEXURE – II(a)
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – V Semester B.Sc.(Physics)
DSC – 2 Lab Practical VI
w.e.f – 2018 -2019

Work load: 30 hrs

3 hrs/week

Minimum of 6 experiments to be done and recorded

1. e/m of an electron by Thomson method.
2. Determination of Planck's Constant (photocell).
3. Verification of inverse square law of light using photovoltaic cell.
4. Study of absorption of α -rays.
5. Study of absorption of γ -rays.
6. Determination of Range of β -particles.
7. Determination of M & H.
8. Analysis of powder X-ray diffraction pattern to determine properties of crystals.
9. Energy gap of a semiconductor using junction diode.
10. Energy gap of a semiconductor using thermister.
11. Thevinin Norton Theorems/Construction of Ohm Meter
12. L-R & C-R Circuits
13. L & II Filters (Bridge Rectifier)
14. L-D-R Characteristics

Signature of the university nominee:

Signature of the subject Experts: 1.

2.

ANNEXURE - III
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – VI Semester B.Sc.(Physics)
DSC – 2 Elective Paper VII(C): Renewable Energy (For Non-Maths Combinations)
w.e.f – 2018-2019

No. of Hours per week: 03

Total Lectures:60

UNIT-I (12 hrs)1. Introduction to Energy: Definition and units of energy, power, Forms of energy, Conservation of energy, second law of thermodynamics, Energy flow diagram to the earth. Origin and time scale of fossil fuels, Conventional energy sources, Role of energy in economic development and social transformation.

2. Environmental Effects:Environmental degradation due to energy production and utilization, air and water pollution, depletion of ozone layer, global warming, biological damage due to environmental degradation. Effect of pollution due to thermal power station, nuclear power generation, hydroelectric power stations on ecology and environment.

UNIT-II (12 hrs)

3. Global Energy Scenario: Energy consumption in various sectors, projected energy consumption for the next century, exponential increase in energy consumption, energy resources, coal, oil, natural gas, nuclear and hydroelectric power, impact of exponential rise in energy usage on global economy.

4. Indian Energy Scene: Energy resources available in India, urban and rural energy consumption, energy consumption pattern and its variation as a function of time, nuclear energy - promise and future, energy as a factor limiting growth, need for use of new and renewable energy sources.

UNIT-III (12 hrs)5.Solar energy: Solar energy, Spectral distribution of radiation, Flat plate collector, solar water heating system, Applications, Solar cooker. Solar cell, Types of solar cells, Solar module and array, Components of PV system, Applications of solar PV systems.

6. Wind Energy: Introduction, Principle of wind energy conversion, Components of wind turbines, Operation and characteristics of a wind turbine, Advantages and disadvantages of wind mills, Applications of wind energy.

UNIT-IV (12 hrs)7. Ocean Energy: Introduction, Principle of ocean thermal energy conversion, Tidal power generation, Wave energy technologies, advantages and disadvantages.

8. Hydrogen Energy:History of hydrogen energy - Hydrogen production methods - Electrolysis of water, Hydrogen storage options – Compressed and liquefied gas tanks, Metal hydrides; Hydrogen safety - Problems of hydrogen transport and distribution - Uses of hydrogen as fuel.

UNIT-V (12 hrs)9. Bio-Energy

Energy from biomass – Sources of biomass – Different species – Conversion of biomass into fuels – Properties of biomass – Biogas plants – Types of plants – Design and operation –Properties and characteristics of biogas.

References:

1. Solar Energy Principles, Thermal Collection &Storage, S.P.Sukhatme: ata McGraw Hill Pub., New Delhi.
2. Non-Conventional Energy Sources, G.D.Rai, New Delhi.
3. Renewable Energy, power for a sustainable future, Godfrey Boyle, 2004,
4. The Generation of electricity by wind, E.W. Golding.
5. Hydrogen and Fuel Cells: A comprehensive guide, Rebecca Busby, Pennwellcorporation (2005)
6. Hydrogen and Fuel Cells: Emerging Technologies and Applications, B.Sorensen, AcademicPress (2012).
7. Non-Conventional Energy Resources by B.H. Khan, Tata McGraw Hill Pub., 2009.
8. Fundamentals of Renewable Energy Resources byG.N.Tiwari, M.K.Ghosal, Narosa Pub., 2007.

Signature of the university nominee:

Signature of the subject Experts: 1.

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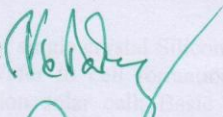
ANNEXURE –III(a)
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – VI Semester B.Sc.(Physics)
DSC – 2 Elective paper Lab Practical VII(C)
w. e. f(2018 -2019)

All experiments to be done and recorded

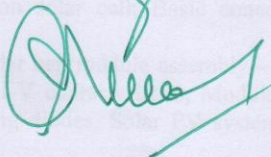
3hrs/Week

1. Preparation of copper oxide selective surface by chemical conversion method.
1. Performance testing of solar cooker.
3. Determination of solar constant using pyrheliometer.
4. Measurement of I-V characteristics of solar cell.
5. Study the effect of input light intensity on the performance of solar cell.
6. Study the characteristics of wind.

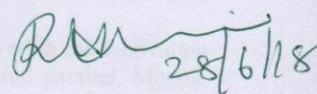
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Signature of the subject Experts: 1.



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Signature of the subject Experts: 1.

ANNEXURE - IV
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – VI Semester B.Sc.(Physics)
DSC – 2 Cluster Elective Paper VIII(C-1): Solar Thermal and Photovoltaic Aspects
(For Non- Maths Combinations)
w.e.f – 2018-2019

No. of Hours per week: 03

Total Lectures: 60

UNIT-I (12 hrs) 1. Basics of Solar Radiation: Structure of Sun, Spectral distribution of extra terrestrial radiation, Solar constant, Concept of Zenith angle and air mass, Definition of declination, hour angle, solar and surface azimuth angles; Direct, diffuse and total solar radiation, Solar intensity measurement – Thermoelectric pyranometer and pyrheliometer.

2. Radiative Properties and Characteristics of Materials: Reflection, absorption and transmission of solar radiation through single and multi covers; Kirchhoff's law – Relation between absorptance, emittance and reflectance; Selective Surfaces - preparation and characterization, Types and applications; Anti-reflective coating.

UNIT-II (14 hrs) 3. Flat Plate Collectors (FPC) : Description of flat plate collector, Liquid heating type FPC, Temperature distribution in FPC, Definitions of fin efficiency and collector efficiency, Evacuated tubular collectors.

4. Concentrating Collectors: Classification, design and performance parameters; Definitions of aperture, rim-angle, concentration ratio and acceptance angle; Tracking systems; Parabolic trough concentrators; Concentrators with point focus.

Unit-III (14 hrs) 5. Solar photovoltaic (PV) cell: Physics of solar cell –Type of interfaces, homo, hetero and schottky interfaces, Photovoltaic Effect, Equivalent circuit of solar cell, Solar cell output parameters, Series and shunt resistances and its effect on cell efficiency; Variation of efficiency with band-gap and temperature

.6. Solar cell fabrication: Production of single crystal Silicon: Czochralski (CZ) and Float Zone (FZ) methods, Silicon wafer fabrication, Wafer to cell formation, Thin film solar cells, Advantages, CdTe/CdS cell formation, Multi-junction solar cell; Basic concept of Dye-sensitized solar cell, Quantum dot solar cell.

UNIT-IV (8 hrs) Solar PV systems: Solar cell module assembly – Steps involved in the fabrication of solar module, Module performance, I-V characteristics, Modules in series and parallel, Module protection – use of Bypass and Blocking diodes, Solar PV system and its components, PV array, inverter, battery and load.

UNIT-V (12 hrs)

Solar thermal applications: Solar hot water system (SHWS), Types of SHWS, Passive space heating and cooling concepts, Solar desalinator and drier, Solar thermal power generation.

Solar PV applications: SPV systems; Stand alone, hybrid and grid connected systems, System installation, operation and maintenances;

Reference Books:

1. Solar Energy Utilization, G. D. Rai, Khanna Publishers
2. Solar Energy- Fundamentals, design, modeling and applications, G.N. Tiwari, Narosa Pub., 2005.
3. Solar Energy-Principles of thermal energy collection & storage, S.P. Sukhatme, Tata Mc-GrawHill Publishers, 1999.
4. Solar Photovoltaics- Fundamentals, technologies and applications, Chetan Singh Solanki, PHI Learning Pvt. Ltd.,
5. Science and Technology of Photovoltaics, P. Jayarama Reddy, BS Publications, 2004.

Signature of the university nominee: _____

Signature of the subject Experts: 1. _____

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ANNEXURE – IV(a)
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – VI Semester B.Sc. (Physics)
DSC – 2 Cluster Elective paper Lab Practical VIII(C-1)
w.e.f – 2018 -2019

Six experiments to be done and recorded.

3 hrs/Week

1. Measurement of direct solar radiation using pyrheliometer.
2. Measurement of global and diffuse solar radiation using pyranometer.
3. Measurement of emissivity, reflectivity and transmissivity.
4. Measurement of efficiency of solar flat plate collector.
5. Performance testing of solar air dryer unit.
6. Effect of tilt angle on the efficiency of solar photovoltaic panel.
7. Study on solar photovoltaic panel in series and parallel combination.

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Signature of the subject Experts: 1.

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Signature of the subject Experts: 1.

ANNEXURE - V
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – VI Semester B.Sc.(Physics)
DSC – 2 Cluster Elective Paper VIII(C-2): Wind, Hydro & Ocean Energies (For Non-Maths
Combinations)
w.e.f – 2018-2019

No. of Hours per week: 03

Total Lectures:60

UNIT-I 1. Introduction: Wind generation, meteorology of wind, world distribution of wind, wind speed variation with height, wind speed statistics, Wind energy conversion principles; General introduction; Types and classification of WECS; Power, torque and speed characteristics.**2. Wind Measurements:** Eolian features, biological indicators, rotational anemometers, other anemometers, wind measurements with balloons.

UNIT-II: 3. Wind Energy Conversion System: Aerodynamic design principles; Aerodynamic theories; Axial momentum, blade element and combine theory; Rotor characteristics; Maximum power coefficient; Prandtl's tip loss correction.

4. Design of Wind Turbine: Wind turbine design considerations; Methodology; Theoretical simulation of wind turbine characteristics; Test methods.

UNIT-III 5. Wind Energy Application: Wind pumps; Performance analysis, design concept and testing; Principle of wind energy generation; Standalone, grid connected and hybrid applications of wind energy conversion systems, Economics of wind energy utilization; Wind energy in India; Environmental Impacts of Wind farms.

UNIT-IV 6. Small Hydropower Systems: Overview of micro, mini and small hydro systems; Hydrology; Elements of pumps and turbine; Selection and design criteria of pumps and turbines; Site selection; Speed and voltage regulation; Investment issues load management and tariff collection; potential of small hydro power in India. Wind and hydro based stand-alone hybrid power systems.

UNIT-V 7. Ocean Thermal: Tidal and Wave Energy Systems: Ocean Thermal - Introduction, Technology process, Working principle, Location of OCET system, Electricity generation methods from OCET, Advantages and disadvantages, Applications of OTEC

8. Tidal Energy - Introduction, Origin and nature of tidal energy, Merits and limitations, Tidal energy technology, Tidal range power, Basic modes of operation of tidal systems. Wave Energy – Introduction, Basics of wave motion, Power in waves, Wave energy conversion devices, Advantages and disadvantages, Applications of wave energy.

Reference Books:

1. Dan Charis, Mick Sagrillo, Lan Woofenden, "Power from the Wind", New Society Pub. 2009.
2. Erich Hau, "Wind Turbines-Fundamentals, Technologies, Applications, Economics", 2nd Edition, Springer Verlag, Berlin Heidelberg, NY, 2006.
3. Joshue Earnest, Tore Wizelius, "Wind Power and Project Development", PHI Pub., 2011.
4. T. Burton, D. Sharpe, N. Jenkins, E. Bossanyi, "Wind Energy Handbook", John Wiley Pub., 2001.
5. Paul Gipe, "Wind Energy Basics", Chelsea Green Publications, 1999.
6. Khan, B.H., "Non-Conventional Energy Resources", TMH, 2nd Edition, New Delhi, 2009.
7. Tiwari, G.N., and Ghosal, M.K., "Renewable Energy Resources – Basic Principles and applications", Narosa Publishing House, 2007.

signature of the university nominee: _____

Signature of the subject Experts: 1. _____

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ANNEXURE – V(a)
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – VI Semester B.Sc.(Physics)
DSC – 2 Cluster Elective paper Lab Practical VIII(C-2)
w.e.f – 2018 -2019

All experiments to be done and recorded

3 hrs/Week

1. Estimation of wind speed using anemometer.
2. Determination of characteristics of a wind generator
3. Study the effect of number and size of blades of a wind turbine on electric power output.
4. Performance evaluation of vertical and horizontal axes wind turbine rotors.
5. Study the effect of density of water on the output power of hydroelectric generator.
6. Study the effect of wave amplitude and frequency on the wave energy generated.

Signature of the university nominee:

Signature of the subject Experts: 1.

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ANNEXURE - VI
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – VI Semester B.Sc.(Physics)
DSC – 2 Cluster Elective Paper VIII(C-3): Energy Storage Devices (For Non- Maths
Combinations)
w.e.f – 2018-2019

No. of Hours per week:03

Total Lectures:60

UNIT-I (12 hr)1. Energy Storage:Need of energy storage; Different modes of energy storage, Flywheel storage, Electrical and magnetic energy storage: Capacitors,electromagnets; Chemical Energy storage: Thermo-chemical, photo-chemical, bio-chemical,electro-chemical, fossil fuels and synthetic fuels. Hydrogen for energy storage.

UNIT-II (12 hrs)2. Electrochemical Energy Storage Systems:Batteries: Primary, Secondary, Lithium, Solid-state and molten solvent batteries; Leadacid batteries; Nickel Cadmium Batteries; Advanced Batteries. Role of carbon nano-tubes inelectrodes.

UNIT-III (12 hrs)3. Magnetic and Electric Energy Storage Systems:Superconducting Magnet Energy Storage(SMES) systems; Capacitor and battery:Comparison and application; Super capacitor: Electrochemical Double Layer Capacitor(EDLC), principle of working, structure, performance and application.

UNIT-IV (12 hrs)4. Fuel Cell: Fuel cell definition, difference between batteries and fuel cells, fuel cell components, principle and working of fuel cell, performance characteristics,efficiency, fuel cell stack, fuel cell power plant: fuel processor, fuel cell powersection, power conditioner, Advantages and disadvantages.

UNIT-V (12 hrs)5. Types of Fuel Cells: Alkaline fuel cell, polymer electrolyte fuel cell, phosphoric acid fuel cell,molten carbonate fuel cell; solid oxide fuel cell,proton exchange membrane fuel cell, problems with fuel cells, applications of fuel cells.

REFERENCE BOOKS

1. J. Jensen and B. Squirensen, Fundamentals of Energy Storage, John Wiley, NY, 1984.
2. M. Barak, Electrochemical Power Sources: Primary and Secondary Batteries by, P. Peregrinus, IEE, 1980.
3. P.D. Dunn, Renewable Energies, Peter Peregrinus Ltd, London, 1986.
4. B. Viswanathan and M. A. Scibioh, Fuel Cells-Principles and Applications, University Press, 2006.
5. Hart, A.B and G.J. Womack, Fuel Cells: Theory and Application, Prentice Hall, New York, 1989.

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Signature of the subject Experts: 1.

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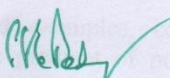
ANNEXURE – VI(a)
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
III Year – VI Semester B.Sc.(Physics)
DSC – 2 Cluster Elective paper Lab Practical VIII(C-3)
w.e.f – 2018 -2019

All experiments to be done and recorded

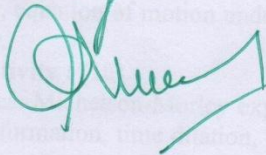
3 hrs/Week

1. Study of charge and discharge characteristics of storage battery.
2. Study of charging and discharging behavior of a capacitor.
3. Determination of efficiency of DC-AC inverter and DC-DC converters
4. Study of charging characteristics of a Ni-Cd battery using solar photovoltaic panel.
5. Performance estimation of a fuel cell.
6. Study of effect of temperature on the performance of fuel cell.

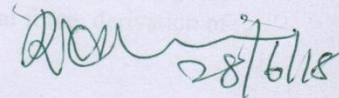
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ANNEXURE – VII (a)
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
FIRST YEAR B.Sc. PHYSICS(For Mathematics Combination)
FIRST SEMESTER
DSC II Paper-I: Mechanics & Properties of Matter
(w.e.f 2018-2019)

No. of Hours per week:04

Total Lectures:60

UNIT-I: Vector Analysis : (08)

Scalar and vector fields, *Definitions & Physical significance* of gradient of a scalar field, divergence and curl of a vector field and related problems. Vector integration, line, surface and volume integrals. Stoke's, Gauss's and Green's theorems and their simple applications.

UNIT-II: Mechanics of Particles : (10)

Laws of motion, motion of variable mass system, motion of a rocket, multistage rocket. Elastic collision in two dimensions, *elastic oblique collision*, collisions in two and three dimensions, concept of impact parameter, scattering cross-section, Rutherford scattering.

UNIT-III: Mechanics of rigid bodies : (12)

Definition of rigid body, rotational kinematic relations, *kinetic energy and angular momentum of rotating body*, equation of motion for a rotating body, angular momentum and inertia tensor. Euler equations-*applications of Euler equations*, Symmetric top-precessional velocity, Gyroscope

UNIT-IV: Mechanics of continuous media : (8)

Elastic constants of isotropic solids and their relations. Poisson's ratio. Classification of beams, *types of supports*, types of loads and types of bending , shearing force and bending moment – sign conventions, simple supported beam carrying a concentrated load at mid span – cantilever with an end load.

UNIT-V: Central forces : (12)

Central forces – definition and examples, conservative nature of central forces, conservative force as a negative gradient of potential energy, *radial and centripetal acceleration in polar coordinates*, equation of motion under a central force, derivation of three Kepler's laws, *coriolis force*.

UNIT-VI: Special theory of relativity : (10)

Galilean relativity, absolute frames. Michelson-Morley experiment, Postulates of special theory of relativity. Lorentz transformation, time dilation, length contraction, addition of velocities, mass-energy relation.

Reference Books

1. Fundamentals of Physics by Alan Giambattista et al Tata-McGraw Hill Company, Edition 2008
2. University Physics by Young and Freeman, Pearson Education, Edition 2005
3. Sears and Zemansky's University Physics by Hugh D. Young, Roger A. Freedman Pearson Education Eleventh Edition.
4. An introduction to Mechanics by Daniel Kleppner & Robert Kolenkow. The McGraw Hill Companies.
5. Mechanics . Hans & Puri. TMH Publications.
6. Engineering Physics. R.K. Gaur & S.L. Gupta. Dhanpat Rai Publications.

Signature of the university nominee:

Signature of the subject Experts: 1.

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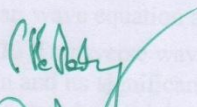
ANNEXURE - VII(b)
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
B.Sc. PHYSICS (FOR MATHEMATICS COMBINATIONS)
First SEMESTER
DSC II Lab Practical -I
(w. e. f. 2018 - 2019)

Minimum of 6 experiments to be done and recorded

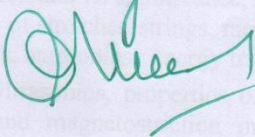
3 hrs/Week

1. Viscosity of liquid by the flow method (Poiseuille's method)
2. Young's modulus of the material of a bar (scale) by uniform bending
3. Young's modulus of the material a bar (scale) by non- uniform bending
4. Surface tension of a liquid by capillary rise method
5. Determination of radius of capillary tube by Hg thread method
6. Viscosity of liquid by Searle's viscometer method
7. Bifilar suspension –moment of inertia of a regular rectangular body.
8. Determination of moment of inertia using Fly-wheel
9. Determination of the height of a building using a sextant.
10. Rigidity modulus of material of a wire-dynamic method (torsional pendulum)

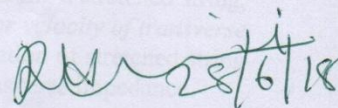
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Signature of the subject Experts: 1.



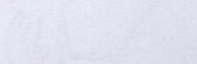
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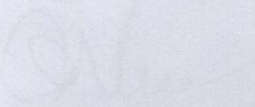
REFERENCE BOOKS

1. BSc Physics, Vol 2, Telugu Academy, Hyderabad
2. Physics for Biology and Pre-medical Students –D.M. Harper & S.G. Mac Donald
3. Unified Physics Vol II, Optics and Thermodynamics, Jay Prakash Mehta & Co. Ltd., Meerut.
4. Optics, A.P. French, The McGraw-Hill.
5. Fundamentals of Optics, H.R. Guha and O.R. Khanna, 1991, R. Chand Publication
6. Heat and Thermodynamics, N. Subramanyam and L. Briljal, S. Chand & Co.
7. Electricity and Magnetism, N. Subramanyam and L. Briljal, S. Chand & Co.
8. University Physics, H.D. Young, M.W. Zemansky, F.W. Sears, Narayana Publishers, New Delhi

Signature of the university nominee:



Signature of the subject Experts: 1.



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ANNEXURE - VII(c)
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
SECOND YEAR B.Sc. PHYSICS (FOR MATHEMATICS COMBINATIONS)
I FIRST SEMESTER
DSC II: Paper II: Waves & Oscillations
(w. e. f. 2018-2019)

Work load: 60 hrs per semester

4 hrs/week

UNIT-I: Fundamentals of vibrations : (12) Simple harmonic oscillator- differential equation & its solution – Physical characteristics of SHM. *Total energy of SHO*, Torsion pendulum- measurement of rigidity modulus, compound pendulum- measurement of 'g', combination of two mutually perpendicular simple harmonic vibrations of same frequency and different frequencies, Lissajous figures.

UNIT-II: Damped and forced oscillations : (12) Damped harmonic oscillator - differential equation & its solution, three cases- over damped, critical and under damped motions. Energy and power dissipations in damped harmonic oscillator, Logarithmic decrement, relaxation time, quality factor. Forced harmonic oscillator - differential equation and its solution, amplitude resonance, velocity resonance.

UNIT-III: Complex vibrations : (06) Fourier's theorem and evaluation of the Fourier coefficients, analysis of periodic wave functions - square wave and saw-tooth wave.

UNIT-IV: Vibrations of Bars: (12) Longitudinal Vibrations in a bars , wave equation and its general solution. Special cases (i) bar fixed at both the ends (iii) bar fixed at one end. Transverse vibrations in a bar, wave equation and its general solution, *tuning fork*.

UNIT-V: Vibrating strings : (12) Transverse wave propagation along a stretched string, general solution of wave equation and its significance, *Equation for velocity of transverse wave*, Stationary waves , Laws of stretched strings, modes of vibration of stretched string clamped at both ends, overtones, harmonics, energy transport, transverse impedance.

UNIT-VI: Ultrasonics : (6) Ultrasonics, properties of ultrasonic waves, production of ultrasonics by piezoelectric and magnetostriction methods, detection of ultrasonics, determination of wavelength of ultrasonic waves. Applications of ultrasonic waves.

REFERENCE BOOKS

1. BSc Physics, Vol.2, Telugu Academy, Hyderabad
2. Physics for Biology and Premedical Students –D.N. Burns & SGG Mac Donald
3. Unified Physics Vol.II, Optics and Thermodynamics, JaiPrakashNath&Co.Ltd., Meerut.
4. Optics, AjoyGhatak, Tata McGraw-Hill.
5. Fundamentals of Optics, H.R. Gulati and D.R. Khanna, 1991, R. Chand Publication
6. Heat and Thermodynamics, N.Subramanyam and L.Brijlal, S.Chand& Co.
7. Electricity and Magnetism, N.Subramanyam and L.Brijlal, S.Chand& Co.
8. University Physics, HD Young, MW Zemansky, FW Sears, Narosa Publishers, New Delhi

Signature of the university nominee:

Signature of the subject Experts: 1.

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ANNEXURE - VII(d)
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
SECOND YEAR B.Sc. PHYSICS (FOR MATHEMATICS COMBINATIONS)
1 FIRST SEMESTER
DSC II : Lab Practical-II
(w. e. f. 2018-2019)

Minimum of 6 experiments to be done and recorded

3 hrs/Week

1. Volume resonator experiment
2. Determination of 'g' by compound/bar pendulum
3. Simple pendulum normal distribution of errors-estimation of time period and the error of the mean by statistical analysis
4. Determination of the force constant of a spring by static and dynamic method.
5. Determination of the elastic constants of the material of a flat spiral spring.
6. Coupled oscillators
7. Verification of laws of vibrations of stretched string –sonometer
8. Determination of frequency of a bar –Melde's experiment.
9. Study of a damped oscillation using the torsional pendulum immersed in liquid-decay constant and damping correction of the amplitude.
10. Formation of Lissajous figures using CRO.

Signature of the university nominee:

Signature of the subject Experts: 1.

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COMPUTER SCIENCE & APPLICATIONS



KVR Govt. College for Women (Autonomous)

Re-Accredited by NAAC with 'A' Grade, Kurnool



DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

BOARD OF STUDIES

(w.e.f. 2018-19)

Minutes of Board of Studies meeting held in the department of Computer Science, KVR Govt. College for Women (A), Kurnool on 23-06-2018 at 10:00 AM and resolved the following:

CONSTITUTION OF THE BOARD OF STUDIES OF UG COMPUTER SCIENCE & APPLICATIONS

S.No.	Name & Designation	Acted as	Cellphone, E-mail id
1.	Smt. G.Girija Rani, Lecturer Incharge of Dept. of Computer Science & Applications, KVR Govt. College for Women(A), Kurnool.	Chairman	9494510260 girija.gknl@gmail.com
2.	Dr. B.Raveendra Babu, Professor in CSE, Director of Skill Development,RVR & JC College of Engineering, Chowdavaram, Guntur.	University Nominee	8985477744 brb@rvrjce.ac.in , rbhogapathi@gmail.com
3.	Sri.P.Sreedhar, Lecturer in Computer Science & FAC Principal, PSC& KVSC Govt Degree College, Nandyal.	Subject Expert	9985096066 feelfree.sree@gmail.com
4.	Sri Joseph Noel, Lecturer in Computer Science, Kurnool Degree College, Kurnool.	Subject Expert	9290807600 joe_voola@yahoo.com
5.	Dr. G. Vijay Kumar, Associate Professor in Computer Science & Technology, G. Pulla Reddy Engineering College, Kurnool.	Educationalist	9848141694 gvjy कुमार@gmail.com
6.	Sri K.Maheswara Reddy, Lecturer in Computer Science KVR Govt. College for Women(A), Kurnool	Member	9030289984 kmreddy2008@gmail.com
7.	Smt.G. Sunitha, Lecturer in Computer Science, KVR Govt. College for Women(A), Kurnool	Member	9441336218 gundasunitha01@gmail.com
8.	Smt. D.Haveela Bala, Lecturer in Computer Applications,KVR Govt. College for Women(A), Kurnool	Member	9491891847 dwaramhaveelabala@gmail.com
9.	Kum. P.Anusha, Lecturer in Computer Science, KVR Govt. College for Women(A), Kurnool	Member	7386991647 p.anusha0592@gmail.com
10.	Kum. S.Shahista Afreen, Lecturer in Computer Science KVR Govt. College for Women(A), Kurnool.	Member	7416033657 Shahista.affu19@gmail.com

11.	Smt. Aruna kumari, Lecturer in Computer Science, KVR Govt. College for Women(A), Kurnool.	Member	8187818325 Aruna0815@gmail.com
12.	Smt. P.Vaishnavi,Lecturer in Computer Science, Osmania Degree College for Women(A),Kurnool	Alumni	7330194310 yshureddy4@gmail.com
13.	G.Geethasree, III MPCs KVR Govt. College for Women (A), Kurnool.	Representative from students	6302973514 Geethasree311098@gmail. com
14	D.Tejeswani III B.Com KVR Govt. College for Women (A), Kurnool.	Representative from student	8985703472 thejaswinidharmavaram1@ gmail.com

11. Resolved to approve the Question paper pattern for I B.Sc. (MPCs, MCsDs), I B.A Computer Applications (EM&TM) & I B.Com Computer Applications Semester-I and Semester-II for the academic year 2018-19 as prescribed in the proforma **Annexure-VIII** and Foundation course paper for all I B.Sc./B.A/B.Com **Annexure XVII**
12. Resolved to approve the Question paper pattern for internal assessment exam for I B.Sc. (MPCs, MCsDs), I B.A Computer Applications (EM&TM) & I B.Com Computer Applications Semester-I and Semester-II for the academic year 2018-19 as prescribed in the proforma in **Annexure-IX**.
13. Resolved to approve the Model Papers for I B.Sc. (MPCs,MCsDs), I B.A Computer Applications (EM&TM) & I B.Com Computer Applications Semester-I and Semester-II for the academic year 2018-19 as prescribed in the proforma in **Annexure-X to Annexure-XII** and Foundation course paper for all I B.Sc./B.A/B.Com programs for all I B.A./B.Sc. programs **Annexure XIV**.
14. Resolved to approve the Question Paper Pattern and Model Paper for Foundation course paper for all I B.Sc./B.A/B.Com programs as prescribed in the proforma in **Annexure-XVIII to Annexure -XIX**
15. Justification report for the syllabus Core Course -I and Core Course -II for the academic year 2018-19 as prescribed in the proforma **Annexure XIII to XVI**
16. Resolved to recommend the panel of examiners and paper setters as prescribed in the proforma in **Annexure -XX** from the academic year 2018-19.

S.No.	Name & Designation	Acted as	Signature
1.	Smt. G.Girija Rani, Incharge of Dept. of Computer Science & Applications, KVR Govt. College for Women(A), Kurnool.	Chairman	G. Giris Rani
2.	Dr. B.Raveendra Babu, Professor in CSE, Director of Skill Development, RVR & JC College of Engineering, Chowdavaram, Guntur.	University Nominee	B. Raveendra Babu
3.	Sri.P.Sreedhar, FAC Principal, Lecturer in Computer Science, PSC& KVSC Govt Degree College, Nandyal.	Subject Expert	P. Sreedhar 06/23/18
4.	Sri Joseph Noel, Lecturer in Computer Science, Kurnool Degree College, Kurnool.	Subject Expert	Joe
5.	Dr. G. Vijay kumar, Associate Professor in Computer Science & Technology, G. Pulla Reddy Engineering College, Kurnool.	Educationalist	G. Vijay Kumar
6.	Sri K.Maheswara Reddy, Lecturer in Computer Science, KVR Govt. College for Women(A), Kurnool	Member	K. Maheswara Reddy

7.	Smt.G. Sunitha, Lecturer in Computer Science, KVR Govt. College for Women(A), Kurnool	Member	G. Sunitha
8.	Smt. D.Haveela Bala, Lecturer in Computer Science, KVR Govt.College for Women(A), Kurnool	Member	D. Haveela Bala
9.	Kum. P.Anusha, Lecturer in Computer Science, KVR Govt. College for Women(A), Kurnool	Member	P. Anusha
10.	Kum. S.Shahista Afreen, Lecturer in Computer Science, KVR Govt. College for Women(A), Kurnool.	Member	S. Shahista
11.	Smt. Aruna kumari, Lecturer in Computer Science, KVR Govt. College for Women(A), Kurnool.	Member	Aruna Kumari
12.	Smt. P.Vaishnavi, Lecturer in Computer Science, Osmania Degree College for Women(A), Kurnool	Alumni	P. Vaishnavi
13.	Geethasree , III MPCs KVR Govt. College for Women (A), Kurnool.	Representative from students	Geethasree
14.	Tejaswini, III B.Com KVR Govt. College for Women (A), Kurnool.	Representative from students	Tejaswini

ANNEXURE - I
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)
B.Sc(MPCs,MCsDs)/ BA(CA&AE)/B.COM Computer Science & Applications
Three-Year Degree Course (Semester Wise)
Syllabus for I Year – I Semester.

Paper I- COMPUTER FUNDAMENTALS & PHOTOSHOP

Unit-I: Introduction to Computers: Characteristics and limitations of Computer, Block diagram of computer, types of computers, computer generations. Number systems: binary, hexa and octal numbering system–Recent Developments – Cloud Server.

Unit-II: Input and Output Devices: Keyboard and mouse, inputting data in other ways, Types of Software: System software, Application software, commercial, open source, domain and freeware software, Memories: primary, secondary and cache memory- Operating System, functions of operating system, types of operating system-Windows basics: desktop, start menu, icons.

Unit –III: Introduction to Adobe Photoshop: Getting started with Photoshop, creating and saving a document in Photoshop, page layout and back ground, Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, pallets, tool box, screen modes, saving files, reverting files, closing files.

Unit –IV: Images, Working with Tool box & Layers:: working with images, image size and resolution, image editing, colour modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids. Practice Sessions. Working with layers- layer styles- opacity-adjustment layers.

Unit-V: Filters: The filter menu, Working with filters- Editing your photo shoot, presentation – how to create ads, artistic filter, blur filter, brush store filter, distort filters, noise filters, pixelate filters, light effects, difference clouds, sharpen filters, printing.

Reference Books:

1. Reema Thareja, Fundamentals of Computers, Oxford University Press
 2. Adobe Creative Team, Adobe Photoshop Class Room in a Book.
 3. David Maxwell, Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color Grading & Graphic...19 February 2016.
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ANNEXURE - II

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)

B.Sc(MCsDs) Computer Science

Three-Year Degree Course (Semester Wise)

Syllabus for I Year – I Semester.

Paper I- MATHEMATICS FOR DATA SCIENCE

Unit-I

Matrices and Basic Operations, Special structures Matrices and Basic Operations, Interpretation of matrices as linear mappings and some examples.

Square Matrices, Determinants Properties of determinants, singular and non-singular matrices, examples, finding an inverse matrix.

Unit-II

Eigen values and Eigenvectors Characteristic Polynomial, Definition of Left/Right Eigen values and Eigenvectors, Caley – Hamilton theorem, singular value Decomposition, Interpretation of Eigen values/vectors.

Unit-III

Linear Systems Definition, applications, solving linear systems, linear inequalities, linear programming.

Unit-IV

Real-valued functions of two or more variables. Definition, examples, simple demos, applications.

Unit-V

Analysis elements Distance, Limits, Continuity, Differentiability, the gradient and the Gaussian. Optimization problems Simple examples, motivation, the role of the Hessian maxima and minima and related extreme conditions. Integration Double integrals, Fubini's theorem, properties, applications.

Assignment/Student Activity:

1. Find the Eigenvectors of $A = \begin{pmatrix} 1 & 1 & 1 \\ 2 & 3 & 4 \\ 5 & 3 & 4 \\ 6 & 3 & 4 \end{pmatrix}$
2. Find the orthogonal $S = \text{span}\{(1 \ 1 \ 1 \ 1), (1 \ 4 \ 4 \ 0), (-1 \ 4 \ 4 \ 0), (-4 \ 2 \ 2 \ 0)\}$

References

1. Gilbert Strang, *Linear Algebra and its Applications*. Thomson /Brooks Cole (Available in a Greek Translation).
 2. Thomas M. Apostol, *Calculus*, Wiley, 2nd Edition, 1991 ISBN 960-07-0067-2.
 3. Michael Spivak. *Calculus*, publish or Perish, 2008, ISBN 978-0914098911.
-

4. Ross L. Finney, Maurice D. Weir . and Frank R. Giordano. Thomas's Calculus, Pearson 12th Edition 2009.
5. David C. Lay, Linear Algebra and Its Applications, 4th Editoin.
6. Yourself saad, Iterative Methods for spare Linear Systems.



KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)
B.Sc (MPCs ,MCsDs)/ BA(CA&AE)/B.COM Computer Science & Applications
Three-Year Degree Course (Semester Wise)
Syllabus for I Year – II Semester.

Paper II- PROGRAMMING IN C

Unit- I: Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms – example Algorithms – Flow Charts. Introduction to C: Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C– Variables –Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting.

Unit-II: Decision Control and Looping Statements: Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Go to Statement

Unit- III: Functions: Introduction – using functions – Function declaration/ prototype Function definition – function call-call by value, call by reference – return statement– Passing parameters – Scope of variables– Storage Classes – Recursive function

Unit- IV: Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array – Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays –Operations on Two Dimensional Arrays, Strings: Introduction String and Character functions

Unit-V: Structure, Union, and Enumerated Data Types, Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables - Passing Arguments to Functions using Pointer – Pointer and Arrays –Passing Array to Function. Introduction –Nested Structures – Arrays of Structures – Structures and Functions - Unions – Enumerated DataTypes.Files-Introduction-Console I/O operations-special functions for working with files.

Reference Books:

1. Reema Thareja, Introduction to C programming, Oxford University Press.
 2. E Balagurusamy, Computing Fundamentals & C Programming – Tata McGraw-Hill, 2008.
 3. Ashok N Kamthane, Programming with ANSI and Turbo C, Pearson Publisher, 2002.
-

ANNEXURE - IV
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)
B.Sc(MCsDs) Computer Science
Three-Year Degree Course (Semester Wise)
Syllabus for I Year – II Semester.

Paper II- INTRODUCTION TO DATA SCIENCE WITH R

Unit-I

Data, Stock Exchange Data, Time Series and Bio logical data) ; data collection. Introduction to the field of data science, different types of data(Data Base data, data Warehouse data, Transaction

Unit-II

Experimental design; data attributes; data cleaning; data characterization and analysis.

Unit-III

Data modelling and mining techniques; model evaluation; visualization; Application of datascience ,Introduction to R – R Data structures – Help functions in R

Unit-IV

Vectors-Scalars-Declarations- recycling-Common Vector operations – Using all and any Vectorized operations-NA and NULL values – Filtering – Vectorized if- then else-Vector Equality – Vector Element names.
Creating matrices –Matrix operations-Appling Functions to Matrix Rows and Columns –Adding and deleting rows and columns.

Unit-V

Vector /Matrix Distinction –Avoiding Dimension Reduction –Higher Dimensional arrays – lists- Creating lists – General list operations – Accessing list components and values – applying functions to lists –recursive lists. Creating Data Frames – Matrix –like operations in frames – Merging Data Frames – Applying function to Data frames.

Assignment/Student Activity: Databases need to undergo pre-processing to be useful for datamining.Dirty Data can cause confusion for the Data Mining procedure,resulting in unreliable output.Data cleaning includes smoothing noisy data,filling in missing values,identifying and removing outliers,and resolving inconsistencies.

References

- 1.Nina Zumel, John Mount, “Practical Data Science with R”, Manning Publications, 2014.
 - 2.Jure Leskovec, Anand Rajaraman, Jeffrey D.Ullman, “Mining of Massive Datasets”, Cambridge University Press, 2014.
 - 3.Mark Gardener, “Beginning R - The Statistical Programming Language”, John Wiley & Sons, Inc., 2012.
 - 4.W. N. Venables, D. M. Smith and the R Core Team, “An Introduction to R”, 2013.
 - 5.Tony Ojeda, Sean Patrick Murphy, Benjamin Bengfort, Abhijit Dasgupta, “Practical Data
-

Science Cookbook”, Packt Publishing Ltd., 2014.

6.Nathan Yau, “Visualize This: The FlowingData Guide to Design, Visualization, and Statistics”, Wiley, 2011.

7.Boris lublinsky, Kevin t. Smith, Alexey Yakubovich, “Professional Hadoop Solutions”, Wiley, ISBN: 9788126551071, 2015.



ANNEXURE - V

LIST OF PRACTICALS

KVR GOVT. COLLEGE (AUTONOMOUS): KURNOOL

I B.Sc (MPCs, MCsDs)/B.A(CA&CE)/B.Com COMPUTER APPLICATION

(Revised syllabus w.e.f.2018-19)

Practical I: PHOTOSHOP

Photo Shop Lab

1. Create your Visiting card
2. Create Cover page for any text book
3. Create a Paper add for advertising of any commercial agency
4. Design a Passport photo
5. Create a Pamphlet for any program to be conducted by an organization
6. Create Broacher for you college
7. Create Titles for any forthcoming film
8. Custom shapes creation
9. Create a Web template for your college
10. Convert color photo to black and white photo
11. Enhance and reduce the given Image size
12. Background changes
13. Design Box package cover
14. Design Texture and patterns
15. Filter effects & Eraser effects

Practical II: PROGRAMMING IN C

Programming in C Lab

1. Find out the given number is perfect number or not using C program.
 2. Write a C program to check whether the given number is Armstrong or not.
 3. Write a C program to generate electricity bill
 4. Write a C program to generate the first n terms of the Fibonacci sequence.
 5. Write a C program to generate all the prime numbers between 1 and n, where n is a value supplied by the user.
 6. Write a C program to find the sum of digits of a mobile number.
 7. Write a C program by defining a structure which contains student details like roll no, name, course, college and total marks.
 8. Write a C program to find both the largest and smallest number in a list of integers.
 9. Write a C program for addition of two matrices by using functions.
 10. Write a C program for multiplication of two matrices by using functions.
 11. Write a C program to perform various string operations.
 12. Write a C program to read & write to a file.
 13. Write a C program to swap two numbers by using pointers.
-

14. Write a C program to read the characters of a FILE and change to upper case and write to another FILE.
15. Write a C program to sort the strings.



ANNEXURE - VI

LIST OF PRACTICALS

KVR GOVT. COLLEGE (AUTONOMOUS): KURNOOL

I B.Sc(MCSDs)COMPUTER SCIENCE(Revised syllabus w.e.f. 2018-19)

Practical I: MATHEMATICS FOR DATA SCIENCE

I YEAR I SEMESTER

1. Study any four applications of Matrices.
2. Study any three polynomial functions and their uses.
3. Take one real world example and apply the Linear System solution.
4. Study two real valued functions and its applications.
5. Study and solve one optimization problem.

Practical II: R LAB

I YEAR II SEMESTER

- 1) Installing R and R studio
 - 2) Basic operations in R
 - 3) Getting data into R, Basic data manipulation
 - 4) Basic plotting
 - 5) Loops and functions
-

ANNEXURE – VII

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade “A”
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)
I B.Sc (MPCs, MCsDs)/B.A(CA&CE)/B.Com

SCHEME OF VALUATION FOR PRACTICALS

Time: 3 hrs

Max. Marks: 50

- | | | |
|----|--------------------------------------|----------|
| 1. | Viva-voice and execution of program | 40 marks |
| 2. | Practical Record | 10 marks |
| | a) 05 Experiments & above - 10 marks | |
| | b) 03 - 04 Experiments - 08 marks | |

ANNEXURE – VIII

QUESTION PAPER PATTERN

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade “A”
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)
I B.Sc(MPCs,MCsDs)/B.A(CA&AE)/B.Com COMPUTER APPLICATIONS

Time: 3 Hours

Max. Marks: 60 M

PART – A

Answer any Five questions. Each question carries Four marks. 5 X 4 = 20 M

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

PART – B

Answer ALL questions. Each question carries Eight marks. 5 X 8 = 40 M

9. a)

OR

b)

10. a)

OR

b)

11. a)

OR

b)

12. a)

OR

b)

13. a)

OR

b)

ANNEXURE – IX

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade “A”
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)
I B.Sc(MPCs,MCsDs)/B.A(CA&AE)/B.Com COMPUTER APPLICATIONS

INTERNAL ASSESSMENT EXAM PATTERN

- i) Division of Internal marks for 40 is as follows.
- ii) There will be two Internal Assessment Examinations of each 20 marks. Average of two will be taken. The Internal exams will be descriptive.
 - Two questions out of three to be answered. Each question carries 5 marks.
 - One question out of two to be answered. Each question carries 10 marks.
 - Duration 60 minutes.
 - Total marks: 10+ 10 = 20 marks
- iii) Seminar/Viva/Quiz is for 5 Marks.
- iv) Assignment is for 5 Marks.
- v) Attendance is for 5 Marks.
- vi) Surprise Test is for 5 Marks.

The above pattern stands for Semester-I and Semester-II.

ANNEXURE – X
Model Question Paper
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade “A”
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)
I B.Sc(MPCs,MCsDs)/B.A(CA&AE)/B.Com COMPUTER APPLICATIONS
I SEMESTER
CORE COURSE-I: COMPUTER FUNDAMENTALS & PHOTOSHOP
Time: 3 Hours **Max. Marks: 60 M**

PART – A

Answer any Five questions. Each question carries Four marks. **5 X 4 = 20 M**

1. Explain characteristics of a computer?
2. Explain the classification of computers based on working principles?
3. What is Input? Explain about any Five Input devices?
4. Define memory? Explain about the differences between RAM & ROM?
5. Discuss how to revert a file in Photoshop?
6. Explain about panning tool in Photoshop?
7. Write a short note on working with layers?
8. Write a short note on Noise filter?

PART – B

Answer ALL questions. Each question carries Eight marks. **5 X 8 = 40 M**

- 9.a) Draw a block diagram of computer? Explain the working of various functional units?
OR
b) Explain computers on the basis of generation?
 - 10.a) What is software? Explain different types of software's?
OR
b) What are the various Output devices of a computer. Explain the working principle of each of them?
 - 11.a) Explain the working of various tools available in Photoshop?
OR
b) Discuss the following in Photoshop program window?
1) Title Bar 2) Menu Bar 3) Rulers
 - 12.a) Discuss the various Color modes available in Photoshop?
OR
b) Discuss various Selection tools used in Photoshop?
 - 13.a) What are Adjustment Layers? Discuss any Ten types of Adjustment layers?
OR
b) What are Artistic Filters ? Explain types of Artistic filters?
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ANNEXURE – XI
Model Question Paper
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade “A”
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)
I B.Sc(MPCs,MCsDs)/B.A(CA&CE)/B.Com COMPUTER APPLICATIONS
II SEMESTER
CORE COURSE-II: PROGRAMMING IN C
Time: 3 Hrs **Max. Marks: 60**

PART – A

Answer any Five questions. Each question carries Six Marks.

5 X 4 = 20 M

- 1) Write about key features of algorithms?
- 2) Explain any 3 operators in C?
- 3) Explain Input & Output functions in C?
- 4) Explain about different types of jumping statements in C?
- 5) Explain about Storage classes?
- 6) Write about scope of variables?
- 7) Write about pointers?
- 8) Explain the difference between structure and union?

PART-B

Answer ALL the questions. Each question carries fifteen marks.

5 X 8 = 40 M

9. a) Explain the structure of a C program with suitable example?

OR

- b) Explain different data types in C?

10. a) Explain about the Control statements with examples?

OR

- b) Explain about iterative statements with suitable examples?

11. a) Explain how to create different functions in c with example

OR

- b) Explain about recursive function with example?

12. a) Define an array? Explain the different types of arrays with examples?

OR

- b) What is a string? Explain about different String handling functions?

13. a) Explain briefly about pointers in C?

OR

b) Define a structure and explain the array of structures with suitable example?



ANNEXURE – XII

Model Question Paper

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

**Re-Accredited by NAAC with Grade “A”
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)**

I B.Sc(MCsDs) Computer Science

II SEMESTER

CORE COURSE-II: INTRODUCTION TO DATA SCIENCE WITH R

Time: 3 Hrs

Max. Marks: 60

PART – A

Answer any Five questions. Each question carries Four Marks.

5 X 4 = 20 M

1. What is data science?
2. Write a short note on data collection?
3. Explain data attributes & data cleaning?
4. What is model evaluation & visualization?
5. Write about common vector operations in R?
6. Write a short note on vector element names?
7. Define lists? How to create lists?
8. How to apply a function to data frames?

PART – B

Answer ALL questions. Each question carries Eight marks.

5 X 8 = 40 M

9. a) Explain different types of data in R?

OR

- b) Explain data collection methods?

10. a) Discuss about experimental design in data science?

OR

- b) Explain about data characterization and analysis?

11. a) Explain about data modeling & mining techniques?

OR

- b) Explain about data structures in R?

12. a) Define array? How to create arrays in R with an example?

OR

- b) Explain briefly about R matrices with examples?
-

13. a) Explain general lists operations with examples?

OR

b)How to create & merge the data in matrix?



ANNEXURE - XVII

KVR GOVT. COLLEGE FOR WOMEN (A), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)
INFORMATION & COMMUNICATION TECHNOLOGY –1 (ICT-1)
COMPUTER FUNDAMENTALS & OFFICE TOOLS
Second Semester Common for B.Sc/B.A/B.Com

Unit-I:

Basics of Computers : Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of a Digital Computer – Classification of Computers based on size and working – Central Processing Unit – I/O Devices. Primary, Auxiliary and Cache Memory – Memory Devices. Definition and Types of Operating System-Functions of an Operating System – MS-DOS MS Windows.

Unit-II:

MS-Word

Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format –Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge

Unit-III:

MS-PowerPoint

Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures -Inserting Other Objects, Audio, Video - Resizing and Scaling of an Object – Slide Transition – Custom Animation

Unit-IV:

MS-Excel

Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns –Changing column widths and row heights, auto format, changing font sizes, colors, shading.

Reference Books:

1. Fundamentals of Computers by Reema Thareja, Publishers: Oxford University Press, India
 2. Fundamentals of Computers by V.Raja Raman, Publishers : PHI
 3. Microsoft Office 2010 Bible by John Walkenbach, Herb Tyson, Michael R.Groh and Faithe Wempen, Publishers: Wiley
-

ANNEXURE – XVIII
KVR GOVT. COLLEGE FOR WOMEN (A), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)
INFORMATION & COMMUNICATION TECHNOLOGY –1 (ICT-1)
COMPUTER FUNDAMENTALS & OFFICE TOOLS
Second Semester Common for B.Sc/B.A/B.Com

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)

Time: 2 Hrs

Max. Marks:50 PART-

A

Answer any FOUR questions. Each question carries 5 marks.

4X5=20M.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

PART-B

Answer any TWO questions. Each question carries 10 marks.

2X15=30 M

- 9.
 - 10.
 - 11.
 - 12.
-

ANNEXURE - XIX

Model Question Paper

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

CHOICE BASED CREDIT SYSTEM (w.e.f. 2018-19)

INFORMATION & COMMUNICATION TECHNOLOGY –1 (ICT-1)

COMPUTER FUNDAMENTALS & OFFICE TOOLS

Second Semester Common for B.Sc/B.A/B.Com

Time: 2 Hrs

Max. Marks: 50

PART - A

Answer any four questions. Each question carries five Marks.

4 X 5 = 20 M

- 1) Explain about different types of computers based on size.
- 2) Explain about secondary memory.
- 3) List the features of Word Processing.
- 4) Write about Headers and Footers in MS-Word.
- 5) Write the features of MS-Power point.
- 6) Write about Mathematical functions in MS-Excel.
- 7) What is Microsoft Excel? Explain the features in Excel.

PART-B

Answer any two the questions. Each question carries fifteen marks.

2 X 15 = 30 M

- 8) Explain the block diagram of a Digital Computer
- 9) Explain the steps involved in Mail Merge.
- 10) Write procedure for creating a power point presentation of your family.
- 11) Explain the different types of charts in MS-Excel.

HISTORY





K.V.R. Govt. College for Women (A), Kurnool.

B.A. History SEMESTER - I

PAPER : I Year History of Ancient India from Earliest times to 650 A.D.

Unit – I	Influence of geography on History — survey of source — pre Historic period —Paleolithic , Mesolithic and Neolithic Cultures -- Role of Technology Indus Valley Civilization and its features Vedic culture - Early and later Vedic periods -- Post Vedic period — Emergence of and caste system rise of new religions movements —Jainism and Buddhism in 6th century B.C. Impact on society and culture
Unit – II	A brief survey of political in ancient India — Magadha — Ashoka's Dharma, its nature and propagation — Mauryan Administration — Economy — Art and Architecture.
Unit – III	Post — Mauryan period — The Kushans — The Guptas — Polity and administration, social conditions Art, Architecture Education, Literature, Philosophy science and Technology.
Unit – IV	Post Gupta Period — Pushyabuties — south India — Sangam Age satavahas polity and administration, society, economy Art and Architecture.

Reference :

1	Romila Thapar , History of Ancient India .
2	R.C Majumdar ,History of Ancient India upto 1526
3	R. C Majumdar ,The vakataka Gupta Age .
4	R. C Majumdar,the Corporate life in Ancient India
5	R S. Sharma Ancient india
6	D.N Jha , Ancient India
7	Upinder Singh, Ancient India
8	N.C.E.R.T, Books

Project Works : As part of Internal Assignment, Project Work may be given on regional or local history related to culture, economy, struggles land relations, Religious institutions and their influence on the society. They can also be asked to create a play centered on any event in Ancient History of India.



K.V.R. Govt. College for Women (A), Kurnool.

B.A. History

SEMESTER - II

PAPER : II Early Medieval India History & Culture 600 A.D. to 1526 A.D.

Unit – I	The Pallavas — The Cholas — The Chalukyas — The Rastrakutas Polity and Administration — Society, Economy — Art and Architecture.
Unit – II	The Kakathiyas and the vijayanagara kingdoms polity and Administration, society economy — art and architecture
Unit – III	Invasions of Arah's, Ghaznavids and Ghor's and The Delhi sultanate — Society status of women economic and Technical developments, agriculture and Industry — Trade and commerce — urbanization art and architecture fine arts education and literature.
Unit – IV	Impact of Islam on India society and culture The Bhakti and The sufi movements — Emergence of composite culture.

Reference :

1	Romila Thapar , History of Ancient India .
2	R.C Majumdar ,History of Ancient India upto 1526
3	R. C Majumdar ,The vakataka Gupta Age .
4	R. C Majumdar,the Corporate life in Ancient India
5	R S. Sharma Ancient india
6	D.N Jha , Ancient India
7	Upinder Singh, Ancient India
8	N.C.E.R.T, Books



K.V.R. Govt. College for Women (A), Kurnool.

I BA History

Model Question Paper

Paper I-Title: Ancient Indian History & Culture upto 650 A.D.

Marks : 60

Section –A

Answer Five of the following

5 x 4=20

1. Himalayas
2. Unity in diversity
3. Great bath
4. Religious conditions of Rig-Veda period
5. Sallekhana
6. Chandra Gupta Maurya
7. Asoka Buddha Dharma
8. Alexander's Invasions

Section-B

Answer Five of the following questions

8 x 5 = 40

1. Explain the impact of Geography on India History .

OR

What are the Source for Indian History

2. What the features of Indusvalley Civilization .

OR

Explain political Economical, Religious conditions of Rigvedic Civilization

3. What are the teachings of Mahaveera .

OR

Explain the principles of Gouthama Buddha.

4. Explain the conditions of India under Mahajapadas .

OR

Explain the admistration of Asoka

5. Explain Gupta's Golden age .

OR

Explain the Admistration of Harshavardana



K.V.R. Govt. College for Women (A), Kurnool.

I BA History- II semester

Model Question Paper

Paper II : Ancient Indian History & Culture 650 to 1526A.D.

Marks : 60

Section –A

Answer Five of the following

5 x 4=20

1. Mahendera varman I
2. Vijaya Aditya II
3. Dantidurga
4. Rajendera Chola I
5. Rudrama Devi
6. Ashtadiggajas
7. The First Battle of Tarain
8. Qutbuddin Aibak

Section-B

Answer Five of the following questions

8 x 5 = 40

1. Explain the Cultural contribution of Pallavas .

OR

Explain the Cholas Village Administration

2. Explain the Administration of Kakatiyas.
-

OR

Explain the cultural contributions of Vijayanagra Rulers

3. Write About the invasions of Muhommad Ghazni .

OR

Explain the Administration of Alla-uddin Khilji.

4. Explain the Administration of Muhommad Bin-Tughluq .

OR

Explain the causes for the Decline of Delhi Sultanate

5. Explain the Impact on Islam on Indian Society.

OR

Explain the Role of Bhakti and Sufi Movements in India.

ECONOMICS



BOARD OF STUDIES MEETING

DEPARTMENT OF ECONOMICS

HELD ON 27.06.2018

COMPOSITION OF BOARD OF STUDIES

1. Dr. K. VEERACHARI	I/C of Dept	CHAIRMAN
2. Prof. R. SANJEEVA RAO	University Nominee	MEMBER
3. Dr. S. MANSOOR RAHMAN	FACULTY MEMBER	MEMBER
4. Dr. P. SRINIVASA NAIDU	SUBJECT EXPERT	MEMBER
5. Dr. M. NAZEERUDDIN	SUBJECT EXPERT	MEMBER
6. Dr. N. PARVATHI	ALUMNI	MEMBER
7. Mr. S. JUBEIDA BEGUM	GOVT OFFICER	MEMBER

AGENDA OF THE MEETING:

- i. Syllabus for I & II Semester of IBA Economics in CBCS pattern for the academic year 2018-19.
- ii. Question paper Scheme (panel)
- iii. Question paper pattern
- iv. panel of Examiners
- v. Suggestion of Text Books/Reference Books.

The Board of Studies of the Department of Economics met on 27.06.2018 at 10.30 AM under the Chairmanship of Dr. K. Veerachari, Reader in Economics. Discussed and finalised the draft of Syllabus for I & II Semester i.e., Micro Economics I & II prepared on the basis of Common core syllabus approved by the APSCE and prescribed by the Rayalaseema University, Kurnool.

The Syllabus framed by some other Autonomous colleges also considered in discussion and Unanimously approved the following academic activities to be implemented from the Academic Year 2018-19

RESOLUTIONS:

1. It is resolved adopt the prescribed the syllabus for the I & II Semester of I.B.A. (HEP) and I.B.A. (CA) as given Annexure-I, for the Academic Year, 2018-19.

2. It is resolved to allot 6 teaching hours per week.

3. It is resolved to follow the pattern of Exam as follows:

Internal Assessment Examination: 40 Marks

Semester End Examination: 60 Marks

In each Semester Two internal Assessment Exam will be conducted for 20 marks, average of two internal Exam + Attendance + Seminar + Viva. Marks allotted as follows: $20 + 10 + 10 = 40$ Marks.

SEMESTER END EXAMINATION:

Time: 3 Hours

30

Max. Marks: 60⁷⁰

PART - A $4 \times 5 = 20$ Marks

Answer any five of the following questions. Each question

carries 4 marks.

PART - B $5 \times 8 = 40$ Marks

Answer any five of the following questions. Each question

carries 8 marks.

4. It is resolved to authorise the chairman of the BoS to prepare the:

i. Model question paper

ii. Panel of question paper setters

iii. Panel of examiners.

The chairman is authorised to incorporate the changes and additions in the syllabus as directed by the member of the BoS for the final approval of the Academic Council.

5. It is resolved that, the panel of question paper setter is as follows:

- i. Dr. B. Madhava Reddy, Principal, G.D.C, Atur.
- ii. Dr. K. Uma Devi, Lecturer, S.J.C, Kurnool
- iii. Dr. K. Suresh, Principal, G.D.C, Bukkapetnam.
- iv. Dr. K. Yella Krishna, Lecturer, G.D.C, Nardikolkur

6. It is resolved that the panel of examiner is as follows:

- i. Dr. P. Srinivasula Naidu, Principal, G.D.C, Kadiri.
- ii. Dr. M. Nazeemuddin, Reader, Osmania College, Kurnool.
- iii. Dr. K. Parvathi, Principal, Vasavi Mahila Kalashala, Kurnool.
- iv. Dr. K. Ramakrishna, Lecturer, A.A.S College, Adoni

7. As per the direction received from Rajalaxsena University, we decided to conduct examinations for 60 marks [SEE] and 40 marks [IAE] for first year.

The Board of Studies Meeting is held on 27.06.2018 at 10.30 AM in the Department of Economics, KVR Gari College for Women (A) Kurnool.

The following members attended:

1. Dr. K. VEERACHARI

K. Veerachari 27/6/18

2. Prof. R. SANJEEVA RAO

R. Sanjeeva Rao 27/6/18

3. Dr. S. MANSOOR RAHMAN

S. Mansoor Rahman 27/6/18

4. Dr. P. SRINIVASULA NAIDU

P. Srinivasula Naidu

5. Dr. M. NAZEERUDDIN

M. Nazeeruddin 27.6.18

6. Dr. N. PARVATHI

N. Parvathi 27/6/18

Agenda of the Meeting

PAGE: 5

DATE: / /

- 1) To discuss the pattern of semester wise Syllabus for I year BA Paper I, Paper-II for the Academic year 2018-2019 in B.A R.D.T.M.
- 2) To discuss the pattern of Question Paper
- 3) To discuss the pattern of Question Paper setters and Examiners

The Board of Studies in Rural Development resolved the following. It is resolved to follow the Syllabus for I BA RD as prescribed by the Sri Krishna Devaraya University Anantapur for the Academic year 2018-2019.

I BA R.D. Telugu Medium

Title of the Paper

Semester-I

Paper-I Elements of Rural Development

hours per week

Semester-II

Paper-II Rural Development Policies and Programmes

The Semester wise distribution of Marks for the above papers are as follows

Internal Assessment : 40 Marks

Average of two Internals 20th + Assignment 5 Marks + Viva voce 5 Marks + Student Seminar 5 Marks + Attendance 5 Marks

For ~~two~~ Internals two Questions are given one Question for 15 Marks for essay + one short notes 5 Marks are to be followed

External Examination : 60 Marks

Part-A

5x4 = 20 M

Answer Any five of the following questions
Each question carries 8 Marks

Part B $5 \times 8 = 40$ Marks

Answer Any three of the following questions
Each question carries 8 Marks

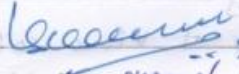
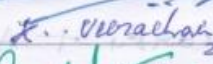
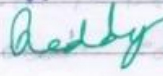
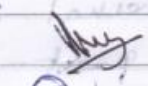
Panel of Question Paper Setters

- 1) Dr. P. Srinivasulu Reddy, Principal GDC Kaduri
- 2) Dr. M. Naryazuddin, Associate Professor O.C.Z
- 3) Dr. Hanumantha Rao, Reader in Economics SDC Nandy
- 4) Dr. N. Parvathi, Principal, Varahi Kalasala KNL
- 5) Mr. P. Gokari, Lec. in Economics GDC Banaganapalle
- 6) Mr. M. Ramakrishna, Lec. in Economics, AAS, Adoni

Panel of Examiners

- 1) Smt. C. Uma Devi, Lec. in Economics SJGC Kurnool
- 2) Dr. B. Madhava Reddy, Principal GDC Aluri
- 3) Dr. K. Venkateswar Rao, Lec. in Economics SJGC KNL
- 4) Dr. K. Suresh, Principal GDC, Dharmavaram ATP
- 5) Dr. Gupte Bheema achari, Reader in Economics SBSYM KNL
- 6) Dr. Mallikarjuna GDC Meni Kurnool
- 7) Dr. Yella Krishna, GDC Nandikotkur.

Approved by

- 1) Prof. B. Sudhakar  29/06/18
- 2) Dr. K. Veerachari  29/6/2018
- 3) Dr. B. Madhava Reddy  29-6-18
- 4) Dr. K. Venkateswar Rao
- 5) Mrs. Jubeda Begum
- 6) Dr. N. Parvathi
- 7) Dr. S. Mansoor Rahman
8. Dr. D. Thirupathama  29/6/18

K.V.R. Govt. College for Women(A), Kurnool

BA Economics Syllabus under CBCS

w.e.f. 2015-16 (Revised in April 2016)

I Year B. A. Programme (UG) Courses – Under CBCS

Semester – I

Paper – I (Core Paper)

Micro Economics – Consumer Behavior

Module -1

Nature, definition and scope of Economics - Wealth, Welfare, Scarcity and modern definitions.

Module -2

Methodology in Economics - Micro & Macro; Static and Dynamic analysis; Normative and positive science, Inductive & Deductive methods; Partial and general Equilibrium.

Module - 3

Utility analysis: - cardinal approach-The Law of diminishing Marginal utility- The Law of Equi-Marginal Utility- concept of consumer's surplus

Module - 4

Demand analysis - Law of Demand - Elasticity of Demand - Measurement of Elasticity of Demand - Price, Income & Cross Elasticities of Demand.

Module - 5

Ordinal Approach: Indifference Curve analysis - Properties of Indifference curves - Price or budget line - Equilibrium of the Consumer with the help of Indifference curves – Samuelson's Revealed preference theory.

REFERENCES:

1. R.G. Lipsey and K.A.Chrysal - "Economics", Oxford University Press, 10/e, 2004.
2. P.A.Samuelson & W.D. Nordhaus-"Economics", Tata Mc.Graw Hill, 18/e, 2005.
3. N.Gregory Mankiw-"Principles of Economics", Thompson 2015 .
4. H.L.Ahuja-"Advanced Economic Theory" S.Chand.
5. M.L.Seth-"Micro Economics", Laxmi Narayana Agarwal, 2015.
6. Bilas, A.-"Micro Economic Theory", International Student Edition, Mc.Graw Hill, 1971.
7. Telugu Academy Publications
8. D.M. Mithani & G.K. Murty - Business Economics, Himalaya Publishing, 2015.

K.V.R. Govt. college for Women (A) , Kurnool
I YEAR B.A Programme (UG) Courses - Under CBCS

Semester -II

Paper-II(core paper)

Micro Economics – production and price theory

Module-1

ఉత్పత్తి ఫలం సజాతీయఉత్పత్తి ఫలం భావన-cobbdouglas ఉత్పత్తి ఫలం-చరానుపాతాల సూత్రం- తరహా
ననుసరించి ప్రతిఫలాలు సూత్రం-వివిధ వయ్యా భావనలు-ప్రకటిత మరియు అప్రకటిత వయ్యాలు,అవకాశవయ్యం-
మొత్తం,స్థిర మరియు చర వయ్యాలు,ఉపాంత వయ్యం మరియు సగటు వయ్యం వాటి మధ్య సంబంధం- రాబడి
భావనలు-మొత్తం,ఉపాంత మరియు సగటు రాబడులు-ట్రేక్ ఈవెన్ పాయింట్.

Module-2

వివిధ రకాల మార్కెట్ నిర్మాణం విశ్లేషణ-సంపూర్ణమైనా పోటీ మార్కెట్ ధరనిర్ణయంమరియు సంపూర్ణమైనా పోటీ
మార్కెట్లో సంస్థ మరియు పరిశ్రమల సమతౌల్యం-ఏకస్వాయం-ధర నిర్ణయం-విచక్షణాత్మక ఏకస్వాయ్యం.

Module-3

ఏకస్వాయ్యం పోటీ- ధర నిర్ణయం-పరిమితస్వాయ్యం-కింకీ డిమాండ్ రేఖ

Module -4

ఉపాంత ఉత్పాదక పంపిణీ సిద్ధాంతం-వేతన నిర్ణయ సిద్ధాంతాలు- జీవనదార వేతన సిద్ధాంతం-జీవన ప్రమాణ వేతన
ఆధునిక వేతన సిద్ధాంతం-సమిష్టి బేరం-కనిష్ట వేతన భావన.

Module-5

బాటక సిద్ధాంతం-రికార్డ్ బాటక సిద్ధాంతం-Alfraid Marshall శృతిమ బాటక భావన-వడ్డీరేటు సిద్ధాంతాలు-
సాంప్రదాయ వడ్డీ సిద్ధాంతం-రుణాత్మక నిధుల వడ్డీ సిద్ధాంతం-J.M kyenes ద్రవ్యత్వాభిరుచి వడ్డీ రేటుసిద్ధాంతం
నవకల్పనల లాభాల సిద్ధాంతం-నష్టభయ సంసిద్ధత మరియు అనిచ్చితత్వ లాభాల సిద్ధాంతం

KVR GOVT. COLLEGE FOR WOMEN (A): KURNOOL
IBA – I – SEMESTER
PAPER-I: MICRO ECONOMICS

Time-3hrs

Max.Marks:60M

PART-A

ఏవేని 5 ప్రశ్నలకు సమాధానాలు వ్రాయుము 5X4M=20M

1. శ్రేయస్సు నిర్వచనం
2. ఆగమ పద్ధతి
3. ఆర్డినల్ దృక్పథం
4. డిమాండ్ సూత్రం
5. వినియోగదారుని మిగులు
6. గిఫ్ట్ వైపరీత్యం
7. ఆదాయ డిమాండ్
8. జాత్యంతర డిమాండ్

PART-B

ఏవేని 5 ప్రశ్నలకు సమాధానాలు వ్రాయుము 5X8M=40M

9. (A). అర్థశాస్త్రం నిర్వచించి దాని స్వభావము మరియు పరిధి వ్రాయుము?

లేక

(B). సంపద నిర్వచనం గురించి వ్రాయుము?

10. (A). సూక్ష్మ మరియు స్థూల అర్థ శాస్త్రం మధ్య గల తేడాలు వ్రాయండి?

లేక

(B). సాధారణ మరియు పాక్షిక సమతౌల్యం గురించి వ్రాయుము?

11. (A). క్షేణిపాత ప్రయోజన సూత్రము వివరించండి

లేక

(B). సమీపాత ప్రయోజన సూత్రం గురించి వ్రాయుము?

12. (A). ధర డిమాండ్ వ్యాకోచత్వా రకాలు వ్రాయండి?

లేక

(B). ధర డిమాండ్ వ్యాకోచత్వం కొలిచే పద్ధతులు వ్రాయుము?

13. (A). ఉదాసీన వక్రరేఖల ధర్మాలు వివరించండి?

లేక

(B). ఉదాసీన వక్ర రేఖల సహాయంతో వినియోగదారుని సమతౌల్యమును వివరించండి?

K.V.R GOVT. COLLEGE FOR WOMEN (A) - KURNOOL

I Year B.A

Paper II - Micro Economics, Production and Price Theory

Time - 3 Hrs

Max Marks - 60M

PART - A

ఈ క్రింది వాటిలో ఏదేని 5 ప్రశ్నలకు సమాధానములు వ్రాయుము. ప్రతి ప్రశ్నకు 4 మార్కులు

5×4=20మా

- | | |
|--------------------------------------|----------------------------|
| 1. ఉత్పత్తి ఫలం | 2. స్థిర మరియు చర వ్యయము |
| 3. సంపూర్ణమైన పోటీ మార్కెట్ లక్షణాలు | 4. విచక్షణాత్మక ఏకస్వామ్యం |
| 5. అమ్మకపు వ్యయాలు | 6. కనిష్ట వేతన భావన |
| 7. కృత్రిమ బాటకం | 8. నకల్పనల లాభాల సిద్ధాంతం |

PART - B

ఈ క్రింది వాటిలో ఏదేని 5 ప్రశ్నలకు సమాధానములు వ్రాయుము. ప్రతి ప్రశ్నకు 8 మార్కులు

5×8=40మా

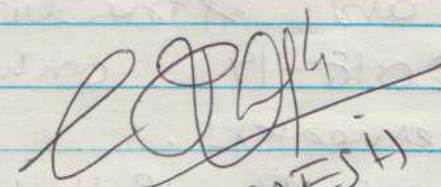
9. ఎ) చరానుపాతాల సూత్రమును వివరింపుము.
(లేక)
బి) తరహాననుసరించి ప్రతిఫలం సూత్రమును విశదీకరించుము.
10. ఎ) సంపూర్ణ పోటీ మార్కెట్ లో స్వల్పకాలంలో, దీర్ఘకాలంలో ధర నిర్ణయము వివరింపుము.
(లేక)
బి) ఏకస్వామ్యంలో ధర నిర్ణయము వివరింపుము.
11. ఎ) ఏకస్వామ్యపు పోటీలో ధర నిర్ణయమును వివరింపుము.
(లేక)
బి) పరిమితి స్వామ్యము, కింకి డిమాండ్ రేఖ
12. ఎ) ఉపాంత ఉత్పాదకత, పంపిణీ సిద్ధాంతమును వివరింపుము.
(లేక)
బి) జీవన ప్రమాణ వేతన సిద్ధాంతమును వివరింపుము.
13. రికార్డ్ బాటక సిద్ధాంతమును వివరింపుము.
(లేక)
బి) J.M కీన్స్ ద్రవ్యత్వాభిరుచి వడ్డీరేటు సిద్ధాంతము విశదీకరించుము.

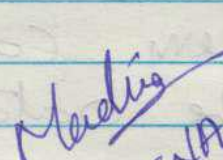
POLITICAL SCIENCE

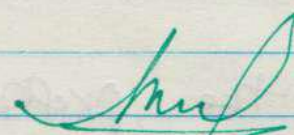


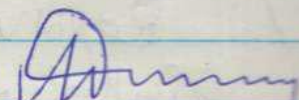
Resolved is

4. Authorized the Chairman of Board of Studies to prepare model question papers, panel of setters and examiners for theory and to incorporate changes (addition/deletion) in the syllabus as directed by the members of BOS for the final approval of the Academic Council.


C. RAMESH
1/c dept of
political
science
KVR G (W) (A)
KVR NO 2


MADINA BANU
Dept of political science
Guest faculty
KVR G (W) (A) KVR


7/7/2018
(Prof. BV Muralidhar)
p.s. & p.a., SVU,
Tirupathi


7/7/18

[Dr. R. Raghupathi]
he is political science

K.V.R. Government College For Women (Autonomous), Kurnool

RE-ACCREDITED WITH 'A' GRADE BY NAAC

For the Year 2018-19 As per APSCHE

Marks: 100 (External Exam: 60 Marks, Internal Assessment: 40 Marks)

I Year Students of B.A. Semester-I

Paper-I : Basic Concepts Of Political Science

(రాజనీతి శాస్త్రము – ప్రాథమిక భావనలు)

Unit-1	Explanatory Frameworks of Politics (రాజకీయాలు వివరణాత్మక భావనలు)
	1. What is Politics: Nature and Scope of Political Science (రాజనీతి అంటే ఏమిటి? : దాని స్వభావం, దాని పరిధి) 2. Approaches to the Study of Politics: Normative, Historical, Empirical Traditions (రాజకీయాల అధ్యయన దృక్పథములు: --తాత్విక చారిత్రక, ప్రయోగాత్మక సాంప్రదాయక)
Unit-2:	What is the State రాజ్యం అంటే ఏమిటి
	1. Origin and Evolution of the Modern State (ఆధునిక రాజ్యం పుట్టుక మరియు పరిణామం) 2. Different Conceptions on the role of the Modern State: Social Democratic and Neo Liberal conceptions (ఆధునిక రాజ్యం యొక్క పాత్ర--వివిధ భావనలు: సాంఘిక, ప్రజాస్వామ్య భావన మరియు నయా ఉదారవాద భావనలు)
Unit-3:	Nations and Nationalism జాతులు మరియు జాతీయ వాదం
	1. Conceptual Distinction between Nation and Nationality (జాతి, జాతీయత మరియు భావనల మధ్య వ్యత్యాసాలు) 2. Varieties of Nationalism: Culture and Civic Nationalism (జాతీయ వాదం రకాలు-- సాంస్కృతిక మరియు పౌర జాతీయ వాదం)

Unit-4:	Rights and Citizenship (హక్కులు మరియు పౌర సత్వం) 1. Evolution of Rights: Civil and Social rights (హక్కుల పరిణామం పౌర మరియు సాంఘిక హక్కులు) 2. Citizenship: Universal and Differential Citizenship పౌర సత్వం—సార్వత్రిక- వ్యత్యాస పౌర సత్వం
Unit-5:	Freedom, Equality and Justice స్వేచ్ఛ, సమానత్వం, న్యాయం 1. Freedom: Negative and Positive Freedom (స్వేచ్ఛ అనుకూల స్వేచ్ఛ ప్రతికూల స్వేచ్ఛ) 2. Equality: Formal Equality, Equality of Opportunity, Equality of Outcome (లాంచనప్రాయమైన సమానత్వం సమానత్వం అవకాశం లో సమానత్వం, ఫలిత సమానత్వం 3. Justice: Justice based on Needs, and Rights and Duties (న్యాయ భావన, సామాజిక న్యాయం , హక్కులు మరియు విధులు)

: Reference books:

1. Bhargava Rajeev and Acharya Ashok (eds) (2008) Political Theory: An Introduction, Pearson, New Delhi.
2. Andrew Heywood (2007) Politics 3rd edition, Palgrave Macmillan, NewYork.
3. Bellamy R (1993) (Ed) Theories and Concepts of Politics, Manchester university press, New York.
4. Vincent A (2004) The Nature of Political Theory, Oxford Universit Press, NewYork.

K.V.R. Government College For Women (Autonomous), Kurnool

Re-Accredited With 'A' Grade By NAAC

Revised From 2018-19 As per APSCHE

I Year Students of B.A. Semester-I

Paper-I : Basic Concepts Of Political Science

(రాజనీతి శాస్త్రము – ప్రాథమిక భావనలు)

MODEL PAPER

Time : 3 hrs

Max Marks : 60M

PART – A

క్రింది ప్రశ్నలలో ఏ ఐదంటికి జవాబులు వ్రాయండి. ప్రతి ప్రశ్నకు 4 మార్కులు 5 X 4 మార్కులు = 20 మార్కులు

1.	Empirical Approach in studying political Science ప్రయోగాత్మక దృక్పథం
2.	Secular State లోకీక రాజ్యము
3.	Neo Liberal conception నయా ఉదారవాద భావన
4.	Role of Religion in formation of 'Nationality' 'జాతీయత భావన ఏర్పడడం లో మతం పాత్ర
5.	Differential Citizenship వ్యత్యాస పౌర సత్వము
6.	Political rights

	రాజకీయ హక్కులు
7.	Relation between Liberty and equality స్వేచ్ఛా, సమానత్వము ల మధ్య గల సంబంధము వ్రాయండి
8.	Equality in Opportunity అవకాశం లో సమానత్వము

PART-B

క్రింది ప్రశ్నలకు జవాబులు వ్రాయండి. ప్రతి ప్రశ్నకు 8 మార్కులు 5 X 8 మార్కులు = 40 మార్కులు

9(a)	Define political Science and explain the Nature and Scope and of Political Science రాజనీతి శాస్త్రము ను నిర్వచించి దాని పరిధి వివరించండి? (లేదా)
(b)	Write about Philosophical and Historical approaches in studying Political Science రాజకీయాల అధ్యయనానికి తాత్విక చారిత్రక, దృక్పథముల ప్రయోజనాన్ని వివరించండి
10(a)	Explain the features modern state ఆధునిక రాజ్య లక్షణాలను గురించి వివరించండి. (లేదా)
(b)	Write the role of the modern state and the concept of social democracy ఆధునిక రాజ్యం యొక్క పాత్ర ను, సాంఘిక ప్రజాస్వామ్య భావన వివరించండి
11 (a)	Distinction between Nationality and Nation జాతీయత మరియు జాతి లక్షణాలను తెలిపి వాటి మధ్య గల మధ్యవ్యత్యాసాలు వ్రాయండి(లేదా)
(b)	What is Nationalism Explain Cultural and Civil Nationalism జాతీయ వాదం ఏమిటో తెలిపి సాంస్కృతిక మరియు పౌర జాతీయ వాదనలను వివరించండి

12 (a)	Explain the evolution of Rights and Write about Civil and Social Rights హక్కుల పరిణామం వివరించి, పౌర మరియు సాంఘిక హక్కులు గురించి వ్రాయండి(లేదా)
(b)	What is Citizenship? Enumerate Characteristics of a Good Citizenship పౌర సత్వం అంటే ఏమిటో తెలిపి ఉత్తమ పౌరసత్వ లక్షణాలను తెలపండి.
13 (a)	Define Liberty (Freedom) and explain Positive Freedom and Negative స్వేచ్ఛ అంటే ఏమిటి? -స్వేచ్ఛ సకారాత్మక మరియు స్వేచ్ఛ నకారాత్మక స్వేచ్ఛ భావనలను వివరించండి(లేదా)
(b)	What is Justice? Explain Social Justice ? న్యాయ భావన అంటే ఏమిటో తెలిపి , సామాజిక న్యాయమును వివరించండి

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I Paper Blue Print- [Weightage to be given to each unit in this paper is as follows]			
Unit	No of Short Questions (4 marks type)	No of Essay Questions (8 marks type)	Marks
I	1	2	[1x4=4] + [2x8=16]=20 Marks
II	2	2	[2x4=8] + [2x8=16]=24 Marks
III	1	2	[1x4=4] + [2x8=16]=20 Marks
IV	2	2	[2x4=8] + [2x8=16]=24 Marks
V	2	2	[2x4=8] + [2x8=16]=24 Marks
			Total Marks= 112 Max Marks to be awarded= 60 Minimum Marks for Pass (40%)= 24 Marks

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I Year Students of B.A. H.E.P

Semester-II

Paper-II

Marks: 100 (Theory Exam: 60 Marks, Internal Assessment: 40 Marks)

Political Science (రాజనీతి శాస్త్రము)

Paper-II (Core): Political Institutions (Concepts, Theories And Institutions)

పేపర్- 2 : రాజకీయ సంస్థలు (భావాలు, సిద్ధాంతములు సంస్థలు)

<u>Unit-1: Constitutionalism (రాజ్యాంగ బద్ధ పాలన)</u>	
	1.Costitution and the Constitutional law, Theory of Separation of Powers (రాజ్యాంగ రాజ్యాంగ బద్ధ పాలన ఆవశ్యకత , అధికార విభజన సిద్ధాంతం (లేదా) అధికార పునర్వ్యవస్థాపన సిద్ధాంతం 2. Structural Forms of the Modern State: Basic features of Parliamentary and Presidential forms of Government (ఆధునిక రాజ్యాల లో ప్రభుత్వ నిర్మాణ పద్ధతులు, పార్లమెంటరీ ప్రభుత్వం మరియు అధ్యక్ష తరహా ప్రభుత్వం యొక్క మౌలిక లక్షణాలు)
<u>Unit-2: Territorial Division of Authority of the Modern State (ఆధునిక రాజ్యాల లో అధికార ప్రాదేశిక విభజన)</u>	
	1. Basic features of Unitary form of Government ఏక కేంద్ర ప్రభుత్వం యొక్క మౌలిక లక్షణాలు 2. Basic features of Federal form of Government సమాఖ్య తరహా ప్రభుత్వం యొక్క మౌలిక లక్షణాలు
<u>Unit-3: Institutional forms of the Modern State ఆధునిక రాజ్యాల లో సంస్థాగత రూపాలు</u>	
	1. Democracy: Basic features of Classical and Modern Representative Democracy ప్రజాస్వామ్యము – సాంప్రదాయ మరియు ఆధునిక ప్రాతినిధ్య ప్రజాస్వామ్య మౌలిక లక్షణాలు 2. Models of Democracy: Procedural Democracy and Substantive Democracy (ప్రజాస్వామ్య నిర్మితులు – నామమాత్ర ప్రజాస్వామ్యం -వాస్తవ ప్రజాస్వామ్యం
<u>Unit-4: Judiciary and Democratic State (న్యాయ వ్యవస్థ మరియు ప్రజాస్వామ్య రాజ్యము)</u>	

1.The nature, role and functions of the Judiciary న్యాయ వ్యవస్థ స్వభావం దాని పాత్ర మరియు అధికారాలు , విదులు

2. Judicial Review: Debates on the Supremacy of legislature or Judiciary in the protection of Constitutional law

న్యాయ సమీక్షాదికారం: రాజ్యాంగ బద్ధ చట్టాల రక్షణలో శాసనశాఖ లేదా న్యాయశాఖ అధిక్యత -- చర్చ

Reference books:

1. Andrew Heywood (2007) Politics 3rd edition, Palgrave Macmillan, New York
2. Held, David (2006) Models of Democracy 3rd edition Oxford Polity Press
3. Birch A.H (2000) The Concepts and Theories of Democracy, London Routledge
4. Bogdanor, V (Ed) (1988) Constitutions in Democratic Politics Gower, Aldershot
5. Scott Gordon (1999) Controlling the State: Constitutionalism from Ancient Athens to Today, Cambridge, Harvard University Press.

K.V.R. Government College For Women (Autonomous), Kurnool

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For the year 2018-19 As per APSCH

I Year Students of B.A. Semester-II

Paper-II (Core): Political Institutions (Concepts, Theories And Institutions)

పేపర్- 2 : రాజకీయ సంస్థలు (భావాలు, సిద్ధాంతములు సంస్థలు)

MODEL PAPER

Time : 3 hrs

Max Marks : 60M

PART – A

క్రింది ప్రశ్నలలో ఏ ఐదింటికీ జవాబులు వ్రాయండి. ప్రతి ప్రశ్నకు 4 మార్కులు 5 X 4 మార్కులు = 20 మార్కులు

1.	అధికార విభజన సిద్ధాంతం	Montesque's theory of separation of powers
2.	మంత్రివర్గం సమిష్టి బాధ్యత	The Collective Leadership
3.	అధ్యక్ష తరహా ప్రభుత్వం లోని గుణ దోషములు	Merits and de-merits of Presidential form of Govt
4.	సమాఖ్య తరహా ప్రభుత్వం నష్టాలు తెలపండి	Write merits and demerits of Federal form of Government
5.	ఏక కేంద్ర ప్రభుత్వం లక్షణములు తెలపండి	Characteristics, of Unitary form of Government
6.	ప్రజాస్వామ్యము లక్షణములు	The Characteristics of the democracy
7.	న్యాయశాఖ స్వతంత్రప్రతిపత్తి	Judicial Autonomy
8.	హేబియస్ కార్పస్	Habeas Corpus

PART-B

క్రింది ప్రశ్నలకు జవాబులు వ్రాయండి. ప్రతి ప్రశ్నకు 8 మార్కులు 5 X 8 మార్కులు = 40 మార్కులు

9(a)	రాజ్యాంగ బద్ధ పాలన అంటే ఏమిటి? దాని ఆవశ్యకతను వివరించండి (లేదా) What is Rule of Law? Explain the importance of Rule of law
(b)	పార్లమెంటరీ ప్రభుత్వం మరియు యొక్క మౌలిక లక్షణాలు వివరించండి Explain the Characteristics of the Parliamentary system of Government
10(a)	సమాఖ్య తరహా ప్రభుత్వం యొక్క మౌలిక లక్షణాలు తెలపండి (లేదా) Write down the Characteristics of Federal form of Government
(b)	ఏక కేంద్ర ప్రభుత్వం ప్రయోజనములు, నష్టాలు తెలపండి Write Merits and de-merits of Unitary form of Government
11 (a)	వాస్తవ ప్రజాస్వామ్యం అంటే ఏమిటో నిర్వచించి వాస్తవ ప్రజాస్వామ్య లక్షణాలను తెలపండి. (లేదా) What is substantive Democracy? Define and elaborate substantive Democracy
(b)	న్యాయ సమీక్షాధికారం, రాజ్యాంగ బద్ధ చట్టాల రక్షణలో న్యాయశాఖ పాత్రను వివరించండి What is Judicial Review:? What is the role of Judiciary in protecting the constitution
12 (a)	ఆధునిక ప్రాతినిధ్య ప్రజాస్వామ్య మౌలిక లక్షణాలు తెలపండి (లేదా) What are the main Features of Modern Democracy
(b)	నామమాత్ర ప్రజాస్వామ్యం అంటే ఏమిటో వివరించండి Explain the Basic features of Classical Democracy
13 (a)	న్యాయ వ్యవస్థ అధికారాలు వివరించండి (లేదా) Explain the duties and functions of the Judiciary
(b)	న్యాయశాఖ స్వతంత్రత అంటే ఏమిటో తెలిపి, దానిని ఏ విధంగా సాధించాలో వివరించండి

	What is Judicial Autonomy Suggest how to achieve the Judicial autonomy
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KVR Govt College for Women Kurnool

2018-19

I internal Examination

Sub: Political Science)

Semester/ Group: I sem I year BA HEP T/M	Date of Exam - 7 --2019
Max Time 1 Hour	Max Marks : 20

సమయం: 1 గంట

Paper-I :(రాజనీతి శాస్త్రము -ప్రాథమిక భావనలు)

గరిష్ట మార్కులు: 20

PART – A

క్రింది ప్రశ్నలలో ఒకదానికి సమాధానం వ్రాయండి 1 X 8 మార్కులు = 8 మార్కులు

1. రాజనీతి శాస్త్రమును నిర్వచించి దాని పరిధిని వివరించండి (లేదా)
2. ఆధునిక రాజ్య లక్షణాలను గురించి వివరించండి.

PART – B

క్రింది వాటిలో మూడింటికి కి సమాధానం వ్రాయండి 3 X 4 మార్కులు = 12 మార్కులు

3. రాజనీతి శాస్త్ర ప్రాధాన్యత
- 4 . చారిత్రక దృక్పథం
- 5 ప్రయోగాత్మక దృక్పథం
- 6 మార్కిస్ట్ దృక్పథం

KVR Govt College for Women Kurnool

2018-19

II internal Examination

Sub: Political Science

Semester/ Group: I sem I BA HEP & HPU T/M & U/M	Date of Exam - 9 --2019
Max Time 1 Hour	Max Marks : 20

సమయం: 1 గంట

Paper-I : (రాజనీతి శాస్త్రము - ప్రాథమిక భావనలు)

గరిష్ట మార్కులు: 20

PART – A Answer any ONE of the following 1 X 8 = 8 Marks

1. Define Nationality and Nation and write down the characteristics of nationality

జాతీయత మరియు జాతి ల అర్థం ను తెలిపి జాతీయత లక్షణాలను వ్రాయండి

(Or-లేదా)

- 2 What is 'Right' ? Explain about the Civil Rights

'హక్కు' అంటే ఏమిటో తెలిపి, పౌర హక్కులు గురించి వ్రాయండి

PART – B Answer any 3 of the following 3 X 4 = 12 Marks

3. Cultural Nationalism/ సాంస్కృతిక జాతీయ వాదం/

4. Political rights /రాజకీయ హక్కులు/

5. Universal and Differential Citizenship / -ప్రపంచ పౌర సత్వం-- వ్యత్యాస పౌర సత్వం

- 6 Enumerate any four Characteristics of a Good Citizen/ ఏవైనా 4 ఉత్తమ పౌరసత్వ లక్షణాలను తెలపండి./

2018-19

I internal Examination

Sub: Political Science)

Semester/ Group: II sem I year BA HEP T/M	Date of Exam - 1 --2020
Max Time 1 Hour	Max Marks : 20

సమయం: 1 గంట

Paper-I : (రాజనీతి శాస్త్రము - ప్రాథమిక భావనలు)

గరిష్ట మార్కులు: 20

PART – A

క్రింది ప్రశ్నలలో ఒకదానికి సమాధానం వ్రాయండి 1 X 8 మార్కులు = 8 మార్కులు

1. Explain Features of Parliamentary system of Govt పార్లమెంటరీ ప్రభుత్వం లక్షణాలను వివరించండి (లేదా)

2. .Explain Merits and de-merits of Federal form of Govt

సమాఖ్య తరహా ప్రభుత్వం ప్రయోజనములు, నష్టాలు తెలపండి

PART – B

క్రింది వాటిలో మూడింటికి కీ సమాధానం వ్రాయండి 3 X 4 మార్కులు = 12 మార్కులు

3. Checks and Balances నిరోధక సమతౌల్యము

4 . The importance of Rule of law రాజ్యాంగ బద్ధ పాలన ఆవశ్యకత ,

5 Write Merits of Unitary form of Govt ఏక కేంద్ర ప్రభుత్వం ప్రయోజనములు తెలపండి

6 Montessequé's theory of separation of powers మంటేస్క్యూ అధికార విభజన సిద్ధాంతం (లేదా) అధికార

పునర్విభజన సిద్ధాంతం

Semester/ Group: II sem I BA HEP & HPU T/M & U/M	Date of Exam - 2 --2020
Max Time 1 Hour	Max Marks : 20

సమయం: 1 గంట

Paper-I : (రాజనీతి శాస్త్రము - ప్రాథమిక భావనలు)

గరిష్ట మార్కులు: 20

PART – A Answer any ONE of the following 1 X 8 = 8 Marks

1. ఆధునిక ప్రాతినిధ్య ప్రజాస్వామ్య మౌలిక లక్షణాలు తెలపండి
(Or-లేదా)

- .2 న్యాయ వ్యవస్థ అధికారాలు వివరించండి

PART – B Answer any 3 of the following 3 X 4 = 12 Marks

- 3 ప్రజాభిప్రాయ సేకరణ
4. హబియస్ కార్పస్
- 5 న్యాయ సమీక్ష అధికారము
- 6 నామమాత్ర ప్రజాస్వామ్యం

PSYCHOLOGY



2018-19

The Board of Studies of Psychology met in the Department on 27-06-2018 at 10-00 AM under the chairmanship of Sri V.V. Seshareddy, Department incharge discussed and finalised draft Syllabus for I, II Semester papers prepared on the basis of common core Syllabus approved by the APSHE, Vijayawada prescribed by Rayalaseema University, Kurnool and the Syllabus framed by some other autonomous Colleges and unanimously finalised and approved the following academic proposals of Psychology to be implemented for the academic year 2018-2019 onwards.

RESOLUTIONS

It is discussed in detail on the proposed Syllabus (based on Choice Based Credit System) for I year B.A. (Rural Development, Psychology, Ad-Telugu) and made certain alternations and additions keeping in view of latest trends in Psychology. It is also discussed and finalised the model Question paper and Scheme of Valuation from the academic year 2018-2019 and following resolutions are made.

1. Resolved to adopt the Syllabi, question paper pattern and prepare Model question paper under Choice Based Credit System (CBCS) for I B.A. Psychology for the academic year 2018-2019.
2. Resolved to introduce Practical-I and Practical-II (each practical 50 marks) in Semester-I and Semester-II respectively for I B.A. Psychology and consider internal evaluation for Practical-I and external evaluation for Practical-II from 2018.
3. Resolved to consider the list of Question paper setters and Examiners and other related issues.
4. Resolved to offer Invitation to Psychology and General

Psychology as core papers in Semester-I and Semester-II respectively for I.B.A. Psychology Course under Choice Based Credit System (CBCS) from the academic year 2018-19

The Board of Studies of Psychology meeting is held on 27-06-2018 at 10-00 AM at the Department of Psychology, K.V.R. Govt. College for Women (A), Kurnool.

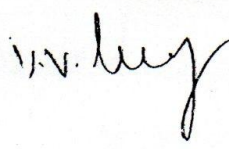
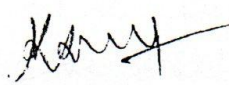
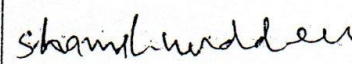
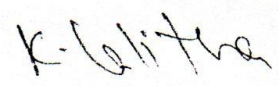
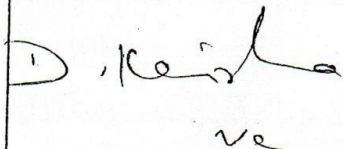
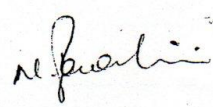
The following members have attended.

1. V.V. Seshareddy - In-charge Lecturer of the Department
 2. Dr. K. Lakitha - one expert to be nominated by The Vice-chancellor from a panel of Six recommended by the principal
 3. Dr. G. Koteswaraiah - Subject expert
Associate professor
 4. Dr. S. Shamsudden - Subject expert
Sr. Lecturer in Psychology - 8
 5. Smt. D. Krishnaveni - one representative from corporate sector/industry related to placements nominated by the principal
 6. N. Parvathi - one postgraduate meritorious alumnus.
- 6-A: Student representatives
1. U. Rajitha, III B.A
 2. D. Kumari, III B.A
 3. K. Charitha, I B.A

K.V.R GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KURNOOL.

BOARD OF STUDIES FOR 2018-19

DEPARTMENT OF PSYCHOLOGY

S.No	Category	Name & Designation of the Person	Chairperson/Member
I	In-Charge Lecturer of the Department	V.V.Sesha Reddy Lecturer Psychology K.V.R. Govt College (W) Kurnool Cell : 9247781635	Chairman 
II	Entire Faculty Members	V.V.Sesha Reddy	
III	Two Experts in the Subject from outside the College to be nominated by the Academic Council	G.Koteswaraiah Reader in Psychology Govt. College for Men Kadapa 2.Dr. S.Samsuddin Lecturer in Psychology DIET Collge Thandrapadu Kurnool Cell : 9440292891	Member  
IV	One expert to be nominated by the Vice-Chancellor from a panel of six recommended by the Principal	Dr. K. Lalitha Asst. Prof. of Psychology Y.V.University Kadapa	Member 
V	One representative from industry/corporate sector related to placements nominated by the Principal	Smt. D.Krishnaveni Administrator Ambika Sishukendra Prakash Nagar Kurnool	Member 
VI	One Post graduate meritorious alumnus	N.Parvathi D/o N. Narasappa H.No.50/348-E19 Arora Nagar B.Camp Kurnool	Member 

RURAL DEVELOPMENT



BOS Meeting on 29-6-2018

PAGE:

DATE: / /

Constitution of the BOS Committee

S.No	Department of Rural Development	Category	Name and Designation
1)	I/c of Rural Development		Dr. K. Veerachari
			Reader in Economics
2)	University nominee		Prof. C. Sudhakar
			Dept of RD, S.K.V, ATP
3)	Subject Experts		Dr. B. Madhava Reddy
			Principal GDC Aluri
			2) Dr. Venkateshwar Rao STAC K.N.
4)	Members	1)	Dr. S. Mansoor Rahman
		2)	Dr. D. Thirupathamma
5)	Alumni	1)	Dr. N. Parvathi
6)		2)	Mrs. Jubeda Begum

The Board of Studies of Rural Development in the Department of Rural Development on 29.6.2018 at 10 AM under the Chairmanship of Dr. K. Veerachari I/c of Department discussed and Finalised draft Syllabus for I, II Semester prepared on the basis of Sri Krishnadevaraya University Anantapur Approval and syllabus framed by some other Autonomous colleges and unanimously Finalised and Approved the following academic proposals of Rural Development to be implemented for the academic year 2018-2019.

RESOLUTIONS:

It is discussed in detail on the proposed syllabus (based on common core) for I year BA (Rural Development), Psychology and Advance Telugu) and made some alterations.

and additions keeping in view of latest trends in Rural Development. It is also discussed and finalised the Model Question Paper and scheme of evaluation for the Academic Year 2018-2019 and following Resolutions are made

- 1) It is resolved to adopt the prescribed syllabus for I, II Semesters of I BA (R.D, Psychology and Advance Telugu) as given in annexure - I for the Academic year 2018-2019.
- 2) It is resolved to take six teaching hours per week. 40 marks per paper shall be allotted for Internal Exams and 60 Marks for Semester End Examinations conducted in each Semester. 2 Internal Exams will be conducted for 20 Marks. Average of two Internals + Assignment + Seminar + viva / group discussion + Quiz Attendance. Marks allotted are as follows $20 + 5 + 5 + 5 + 5 = 40$ Marks for the I year BA Rural Development.
- 3) As per the Directions given by the Special Commissioner of Collegiate Education for I BA Rural Development Internal Marks are allotted 40 and 60 Marks are allotted for Semester End Examination. Two Internal Exams will be conducted for 20 Marks. Average of two Internals + Assignment + Student Seminar + Attendance + quiz Marks allotted for are as follows
- 4) It is resolved to take six teaching hours per week. 25 Marks per paper shall be allotted for Internal Exams and 75 Marks for

Semester End Examinations, In each semester two Internal Exams will be conducted for 15 Marks. Average of two Internals + Assignment + viva voce. Marks allotted are as follows $15+5+5 = 25$ Marks for the II and III BA Rural Development.

57. It is resolved to submit the panel of Question paper setters and Examiners for Theory External Exams.
6. It is resolved to adopt choice of based credit system during the Academic year 2018-2019.

The Board of Studies of Rural Development meeting held on 29.6.2018 at 10 A.M. in the Dept of Rural Development K.V.R Govt college for women, Kurnool. The following members have attended.

S.No.	Category	Name and Designation
1)	I/c of Rural Development	Dr. K. Veerachari Reader in Economics
2)	University nominee	Prof. C. Sudhakar Dept of R.D. S.K.U. ATP
3)	Subject Experts	1) Dr. B. Madhava Reddy Principal GDC Adur 2) Dr. K. Venkateshwar Rao Lec. in Economics SJGRC KNR 3) Mrs. Jubeda Begum PO ICDS, Kurnool. 4) Dr. N. Parvathi Principal Vasavi Kalasala

57. Dr. S. Manjoor Rahman
Associate Professor
G. Dr. D. Thirupathur
Faculty member

Agenda of the Meeting

PAGE: 1

DATE: / /

- 1) To discuss the pattern of semester wise Syllabus for I year BA Paper I, Paper-II for the Academic year 2018-2019 in B.A R.D.T.M.
- 2) To discuss the pattern of Question Paper
- 3) To discuss the pattern of Question paper setters and Examiners

The Board of Studies in Rural Development resolved the following. It is resolved to follow the Syllabus for I BA RD as prescribed by the Sri Krishna Devaraya University Anantapur for the Academic Year 2018-2019.

I BA R.D. Telugu Medium

Title of the Paper

Semester-I

Paper-I Elements of Rural Development 5 hours per week

Semester-II

Paper-II Rural Development Policies and Programmes 5 hours

The Semester wise distribution of Marks for the above papers are as follows

Internal Assessment : 40 Marks

Average of two Internals 20 + Assignment 5 Marks + viva voce 5 Marks + Student Seminar 5 Marks + Attendance 5 Marks

For two Internals two Questions are given one Question for 15 Marks for essay + one short notes 5 Marks are to be followed

External Examination : 60 Marks

Part-A

5 x 4 = 20 M

Answer Any five of the following questions
each question carries 8 Marks

Part B

five

Answer Any three of the following questions
Each question carries 8 Marks

Panel of Question Paper Setters

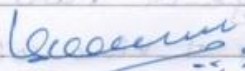
- 1) Dr. P. Srinivasulu Reddy, Principal GDC Kaduri
- 2) Dr. M. Nazyruddin, Associate Professor O.C.Z
- 3) Dr. Hanumantha Rao, Reader in Economics SDC Nandy
- 4) Dr. N. Parvathi, Principal, Vasavi Kalasala KNL
- 5) Mr. P. Gokarri, Lec. in Economics GDC Banaganapalle
- 6) Mr. M. Ramakrishna, Lec. in Economics, AAS, Adoni

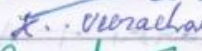
Panel of Examiners

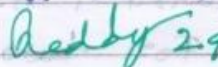
- 1) Smt. C. Uma Devi, Lec. in Economics SJGC Kurnool
- 2) Dr. B. Madhava Reddy, Principal GDC Aluri
- 3) Dr. K. Venkateswar Rao, Lec. in Economics SJGC KNL
- 4) Dr. K. Suresh, Principal GDC, Dharmavaram ATP
- 5) Dr. Gupte Bheema achari, Reader in Economics SBSYM KNL
- 6) Dr. Mallikarjuna GDC Meni Kurnool.
- 7) Dr. Yella Krishna, GDC Nandikotkur.

Approved by

- 1) Prof. B. Sudhakar
- 2) Dr. K. Veerachari
- 3) Dr. B. Madhava Reddy
- 4) Dr. K. Venkateswar Rao
- 5) Mrs. Jubeda Begum
- 6) Dr. N. Parvathi
- 7) Dr. S. Mansoor Rahman
- 8) Dr. D. Thirupathamma

 29/06/18

 29/06/18

 29-6-18


29/6/18

K.V.R.GOV.T. COLLEGE FOR WOMEN(AUTONOMOUS) KURNOOL
C.B.C.S., Semester-VI.

(Revised Syllabus with effect from the Academic Year 2015-16)

Paper-I: Elements of Rural Development

Unit-1

Definition of Rural Areas-Meaning of Development-Concept of Rural Development-Causes of

Rural Backwardness – Natural and Scope of Rural Development in India.

Unit-2

Approaches to Rural Development in India – Gandhian Approach – Decentralised Planning

Approach – Sectoral Approach – Area Approach – Target Group Approach –

Integrated/Holistic Approach – Participatory Approach – Rights Approach.

Unit-3

Rural Health-Health Care Services in Rural Areas – Maternal and Child –Health-HIV/AIDS –

National Health Policy of India- National Rural Health Mission.

Unit-4

Education in Rural Areas – Problems in School Education: School Dropouts and Girl Child

Education sarva Siksha Abhiyan – National Literacy Mission – National Education Policy.

Unit-5

Rural Housing: Status, Problems and Programmes – Drinking Water Supply: Sources,

Problems and Programmes – Rural Sanitation – Problems and Programmes.

Books and References:

- 1.N.I.R.D. : Facts of Rural Development in India
 2. S.C.Jain : Rural Development
 - 3.Misra & Sarma : Problems and prospects of Rural Development in India.
 4. K.Venkata Reddy : Rural Development in India: Poverty and Development.
Himalaya Publishing House, Mumbai, 2012.
 5. Rajasekhar D (Ed) : Prof. G.Parthasarathi's Writings on Indian Rural Economy in
Transition.
 6. Katar Singh : Rural Development: Principles, Policies and Management.
 - 7.G.Sreedhar and : Rural Development in India: Strategies and Process.
D. Rajasekhar Concept Publishing House, New Delhi, 2014.
- Publications of A.P.Telugu Academy
Journals: Kurukshetra, Yojana, Jagruti, Khadi Gramodyog, Journal of R.D.

K.V.R. Govt College for Women (A), Kurnool.
I B.A – RD, I- Semester
Paper - I: Elements of Rural Development
Part – A

Time : 3 Hours

Max.Marks : 60 M

ఈ క్రింది వాటిలో ఏదేని 5 ప్రశ్నలకు సమాధానములు వ్రాయవలెను 5*4 = 20 M

ప్రతి ప్రశ్నకు 4 మార్కులు.

1. గ్రామీణ ప్రాంతాలను నిర్వచించుము .
2. సంపూర్ణ విధానం .
3. హక్కుల విధానం .
4. ఎయిడ్స్ .
5. సర్వశిక్షా అభియాన్ .
6. జాతీయ అక్షరాస్యత .
7. గ్రామీణ పారిశుధ్యం .
8. గ్రామీణ ఆరోగ్యం

Part – B

ఈ క్రింది వాటిలో ఏదేని 5 ప్రశ్నలకు సమాధానములు వ్రాయవలెను 5*8 = 40 M

ప్రతి ప్రశ్నకు 8 మార్కులు.

- 9 (A) భారత దేశంలో గ్రామీణాభివృద్ధి యొక్క స్వభావం మరియు పరిధిని వివరింపుము ?
(or)
(B) గ్రామీణాభివృద్ధి వెనుకబాటుతనానికి కారణాలు వివరించండి ?
- 10 (A) గ్రామీణాభివృద్ధిలో గాంధీగారి విధానం ? (or) (B) గ్రామీణాభివృద్ధిలో గ్రూపు లక్ష్యాలు ?
11. (A) గ్రామీణ ప్రాంతాలలోని వివిధ ఆరోగ్య పథకాలను వివరించండి ?
(or)
(B) ఇండియాలో గ్రామీణ ఆరోగ్య విధానం ?
12. (A) ఇండియాలో జాతీయ విద్య విధానాన్ని వివరించండి ?
(or)
(B) పిల్లలు బడి మానివేయుటకు గల కారణాలు వివరించండి ?
13. (A) గ్రామీణ గృహ నిర్మాణంలో గల సమస్యలు మరియు పథకాలను తెల్పుము ?
(or)
(B) త్రాగు నీటి పంపిణీలో గల సమస్యలను తెల్పుము ?

K.V.R.GOV.T. COLLEGE FOR WOMEN(AUTONOMOUS) KURNOOL

C.B.C.S., Semester-VI.

B.A. RURAL DEVELOPMENT

(Revised Syllabus with effect from the Academic Year 2015-16)

Paper-II: Rural Development Policies and Programmes

Unit:1

Pioneering Efforts in Rural Reconstruction: Sriniketan – Martandam – Sevagram – Baroda – Firka Development Scheme – Nilokheri – Etawa Pilot Project.
Community Development Programme and National Extension Service – Panchayati Raj Instructions – 73rd Constitutional Amendment Act – Transfer of Functions and Powers to PRIs.

Unit-2

Area Development Programmes: Drought Prone Area Programme – Command Area Development Programme – Desert Development Programme – Hill Area Development Programme – Integrated Tribal Development Agency – Tribal Development Corporation.

Unit-3

Target: Group Programmes – Swarnajyanti Gram Swarajgar Yojana – National Rural Livelihoods Mission – Micro Finance and Self-Help Groups for Women Empowerment: Functioning of Velugu/Indira Kranthi Patham in A.P.

Unit-4

Employment Generation Programmes – MGNREGS: Strategy, Implementation mechanism and Problems – Prime Minister's Grameen Rojgar Yojana.

Unit:5

National Social Assistance Programme: Rastriya Swasthya Bima Yojana – Aam Admi Bima Yojana – National Food Security Mission.

Books and References.

- | | | |
|--------------------------------------|---|--|
| 1. N.I.R.D. | : | Facts of Rural Development in India |
| 2. S.C. Jain | : | Rural Development |
| 3. K.Venkata Reddy | : | Rural Development in India: Poverty and Development Himalaya Publishing House, Mumbai. |
| 4. Katar Singh | : | Rural Development: Principles, Policies & Management. |
| 5. G.Sreedhar and D.Rajasekhar: | | Rural Development in India: Strategies and Process, |
| D.Rajasekhar | : | Concept Publishing House, New Delhi, 2014. |
| 6. Susan Johnson and Ben Rogally | : | Micro Finance |
| Publications: of A.P.Telugu Academy. | | |

Journals: Kurukshetra, Yojana, Jagruti, Khadi Gramodyog, Journal of R.D.

COMMERCE



K.V.R.GOV'T COLLEGE FOR WOMEN(A),KURNOOL
DEPARTMENT OF COMMERCE
UG B.O.S MEETING HELD ON 29.6.18

① To approve the course structure and syllabus for I & II Semesters of B.com (C.A) and B.com (General) for the academic year 2018-19

I - Semester papers for B.com (C.A)

1. Fundamentals of Accounting - I
2. Business Organization
3. Computer Fundamentals and Photoshop
4. Adobe Photoshop Lab.

II - Semester papers for B.com (C.A)

1. Fundamentals of Accounting - II
2. Principles of Management
3. Programming in C
4. Programming in C-Lab.

I - Semester papers for B.com (General)

② To follow the syllabus as approved by Board of Studies after making relevant changes in the syllabus prescribed by the UGC

③ To recommend question paper pattern for external examination for 60 marks divided into two sections A & B. Section A consists of 5 questions out of which 5 questions are to be answered each carrying 4 marks. Section - B consists of 5 questions with internal choice, out of which 2 questions must be answered each carrying 2 marks

④ To recommend 40 marks for internal evaluation in which 20 marks are for internal written examination which will be conducted during the Semester and average will be taken 5 marks for Assignments, 5 marks for attendance 5 marks for Surprise test and 5 marks for viva-voce in the subject.

⑤ To continue the certificate course in "Fundamentals of stock market" for II-year B.com students which is introduced in the year 2017 and 2018 for this academic year 2018-19 also.

Name	Category	Signature
1. Dr.K. Mahabhoob Basha	Chairman	<i>[Signature]</i>
2. Smt. L.V. Shesha Rani	Member	<i>[Signature]</i>
3. Dr. B. Parimala Devi	Member	<i>[Signature]</i>
4. Sri. S. Mohana Murali	Member	<i>[Signature]</i>

K V R Govt. College for Women (A) KURNOOL

DEPARTMENT OF COMMERCE

Table-1: B Com (Computer Applications) Semester-I

S#	Course	Total Marks	IAE	Sem-End Exam	Teaching Hours	Credits
1	DSC 1A Paper-1 Fundamentals of Accounting-I	100	40	60	5	4
2	DSC 2A Paper-1 Business Organization	100	40	60	5	4
3	DSC 3A Paper-1 Computer Fundamentals and Photoshop	100	40	60	4	3
4	DSC 3A Lab Practical Adobe Photoshop Lab	50	0	50	2	2
	Total	350	120	230	16	13

Table-2: B Com (Computer Applications) Semester-II

S#	Course	Total Marks	IAE	Sem-End Exam	Teaching Hours	Credits
1	DSC 2B Paper-2 Fundamentals of Accounting-II	100	40	60	5	4
2	DSC 2B Paper-2 Principles of Management	100	40	60	5	4
3	DSC 3B Paper-2	100	40	60	4	3

	Programming in C					
4	DSC 3B Lab Practical Programming in C Lab	50	0	50	2	2
	Total	350	120	230	16	13

K V R Govt. College for Women (A) KURNOOL

DEPARTMENT OF COMMERCE

Table-1: B Com (GENERAL) Semester-I

S#	Course	Total Marks	IAE	Sem-End Exam	Teaching Hours	Credits
1	DSC 1A Paper-1 Fundamentals of Accounting-I	100	40	60	5	4
2	DSC 2A Paper-1 Business Organization	100	40	60	5	4
3	DSC 3A Paper-1 Business Economics - I	100	40	60	5	4
	Total	300	120	180	15	12

Table-2: B Com (GENERAL) Semester-II

S#	Course	Total Marks	IAE	Sem-End Exam	Teaching Hours	Credits
	DSC 2B Paper-2					

1	Fundamentals of Accounting-II	100	40	60	5	4
2	DSC 2B Paper-2 Principles of Management	100	40	60	5	4
3	DSC 3B Paper-2 Business Economics - II	100	40	60	5	4
	Total	300	120	180	15	12

K V R Govt. College for Women (A) KURNOOL

DEPARTMENT OF COMMERCE

Syllabus for I.B.Com (CA & GEN)

FUNDAMENTAL ACCOUNTING-I

OBJECTIVES:

- To make the students acquire the conceptual knowledge of accounting
- To equip the students with the knowledge of accounting process and preparation of final accounts
- To develop the skills of recording financial transactions and preparation of reports using computers

UNIT1: Introduction to Accounting:

Need for Accounting – Definition, features, objectives, functions, systems and bases and scope of accounting - Book keeping and Accounting - Branches of Accounting - Advantages and limitations-basic terminology used- – Accounting concepts and conventions. Accounting Process-Accounting cycle-Accounting equation-Classification of accounts-rules of double entry book keeping – Identification of financial transactions- Journalizing –Posting to Ledgers, Balancing of Ledger Accounts -- *(Theory and Problem)*

UNIT 2: Subsidiary Books

Sub Division of Journal-Preparation of Subsidiary Books including different types of cashbooks-Simple cashbook, cashbook with cash and discount columns, cashbook with cash, discount and bank columns, cashbook with bank columns and petty cash book preparation of sales register, purchase register, journal proper, debit note register, credit note register.

(Theory and Problem)

UNIT 3: Bank Reconciliation Statement –Meaning and Definition – Causes – Preparation of Bank Reconciliation Statement – Favorable and overdraft balances.

(Theory and Problem)

UNIT 4: Trial Balance&Final Accounts - Trial Balance: Meaning, Objectives,- Methods of Trial balance - Final Accounts: Meaning, features, uses and preparation of Manufacturing, Trading Account, Profit & Loss Account and Balance Sheet-Adjusting and Closing entries.

(Theory and Problem)

UNIT 5: Rectifications of Errors: Types of Errors–Suspense Account

(Theory and Problem)

Suggested Books

- 1.Accountancy - IS.P. Jain & K.L Narang , Kalyani Publishers
2. Accountancy – ITulasian, ataMcgraw Hill Co



K V R Govt. College for Women (A) KURNOOL

DEPARTMENT OF COMMERCE

Syllabus for I.B.Com (CA & GEN

DSC 1B – Fundamentals of Accounting-II

Objectives:

- To make the students acquire the conceptual knowledge of accounting
- To equip the students with the knowledge of accounting process and preparation of final accounts
- To develop the skills of recording financial transactions and preparation of reports using computers

Unit-I: Depreciation

Meaning of Depreciation - Methods of Depreciation: Straight line – Written down Value – Sum of the Years' Digits - Annuity and Depletion. (*Theory and Problem*)

Unit-II: Provisions and Reserves

Meaning – Provision vs. Reserve – Preparation of Bad debts Account – Provision for Bad and doubtful debts – Provision for Discount on Debtors – Provision for discount on creditors - Repairs and Renewals Reserve A/c (Problems).

Unit-III: Consignment Accounts

Consignment - Features - Proforma invoice - Account sales – Del-credre Commission - Accounting treatment in the books of consigner and consignee - Valuation of closing stock - Normal and Abnormal losses (Problems).

Unit-IV: Joint Venture Accounts

Joint venture - Features - Differences between Joint-venture and consignment – Accounting procedure - Methods of keeping records (Problems).

UNIT V: Accounting Standards

Accounting standards formulated by the Institute of Chartered Accounts of India (*Theory only*)

Reference Books:

1. R.L. Gupta & V.K. Gupta, Principles and Practice of Accounting, Sultan Chand
 2. T. S. Reddy and A. Murthy - Financial Accounting, Margham Publications.
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3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers.
4. Tulsan, Accountancy-I, Tata McGraw Hill Co.
5. V.K. Goyal, Financial Accounting, Excel Books
6. T.S. Grewal, Introduction to Accountancy, Sultan Chand & Co.



K V R Govt. College for Women (A) KURNOOL

7.

DEPARTMENT OF COMMERCE

Syllabus for I.B.Com (CA & GEN)

SEMESTER – I

BUSINESS ORGANIZATION

Objectives: To make the students acquire the conceptual knowledge of Business Organization and to equip the students with the knowledge of Commerce, trade and the Concept of formation of Company and its important Documents.

Unit-I – Introduction

Concepts of Business, Trade, Industry and Commerce – Features of Business -Trade Classification - Aids to Trade – Industry – Classification – Relationship of Trade, Industry and Commerce.

Unit II- Business Functions and Entrepreneurship

Functions of Business - Factors influencing the choice of suitable form of organization – Meaning of Entrepreneurship – Types – Functions of Entrepreneurship.

Unit –III – Forms of Organization

Sole Proprietorship – Meaning – Characteristics – Advantages and Disadvantages – Partnership - Meaning – Characteristics- Kinds of partners – Advantages and Disadvantages – Partnership Deed – Hindu-undivided Family

Unit-IV- Company

Company – Meaning – Characteristics –Advantages – Kinds of Companies - Differences between Private Ltd and Public Ltd Companies.

Unit-V- Company Incorporation

Preparation of important Documents for incorporation of Company – Memorandum of Association – Articles of Association – Differences Between Memorandum of Association and Articles of Association - Contents of Prospectus – Statement in Lieu of Prospectus

Reference Books

1. C.D.Balaji and G. Prasad, Business Organization - Margham Publications, Chennai.
 2. R.K.Sharma and Shashi K Gupta, Business Organization - Kalyani Publications.
 3. C.B.Guptha, Industrial Organization and Management, Sultan Chand.
 4. Y.K.Bushan, Business organization and Management, Sultan Chand.
 5. Sherlekar, Business Organization and Management, Himalaya Publications.
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K V R Govt. College for Women (A) KURNOOL

DEPARTMENT OF COMMERCE
Syllabus for I.B.Com (CA & GEN)

SEMESTER – II

Principles of Management

Objectives: To make the students acquire the conceptual knowledge of Principles of Management and to equip the students with the knowledge of Management and its Functions etc.

Unit – I: Introduction to Management

Management – meaning – significance – management vs administration – functions of management – Leadership – Leader Vs manager – Fayol's principles of management.

Unit – II: Planning

Planning – meaning – significance – Steps in planning – Decision making – steps in decision making process.

Unit – III - Organization

Organizing – meaning – principles of organizations – line and staff organization – organization chart.

Unit – IV : Delegation of Authority

Delegation – meaning – Elements – Principles – Difficulties in delegation – Guidelines for making delegation effective – Centralization Vs Decentralization.

Unit – V –Staffing , controlling and Communication

Staffing – Selection procedure – co-ordination – control – meaning –Process of control – Qualities of Good Control -Communication – Process of communication– Types of Communication.

Reference Books

1. Dr.C.D.Balaji and G.Prasad, Business organization and Management – Margham publications, Chennai -17.
 2. R.K.Sharma and Shashi, K.Gupata Business organization and management – Kalyani publications.
 3. C.B.Guptha, industrial organization and management, Sulthanchand.
 4. Y.K.Bushan , business organization and management, Sulthanchand.
 5. Sherlekar, business organization and management, Himalaya Publications.
 6. Management, Maruthi publishers.
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K V R Govt. College for Women (A) KURNOOL

DEPARTMENT OF COMMERCE
Syllabus for I.B.Com (GENERAL)

DSC 3A - Business Economics-I

Objectives: To make the students acquire the conceptual knowledge of Business Economics and to equip the students with the knowledge of Demand Analysis and its forecasting, to acquire the techniques of Break –Even Analysis.

Unit-I- Introduction

Meaning and Definitions of Business Economics - Nature and scope of Business Economics- Micro and Macro Economics and their differences .

Unit-II- Demand Analysis

Meaning and Definition of Demand - Determinants of Demand -- Demand function – Law of demand- Demand Curve – Exceptions.

Unit –III- Elasticity of Demand

Meaning and Definition of Price Elasticity of Demand – Types of Price Elasticity of Demand – Measurements of Price elasticity of demand – Total outlay Method – Point Method – Arc Method.

Unit – IV- Production Function

Factors of Production – Law of Variables Proportions – Returns to Scale.

Unit-V- Cost Analysis

Meaning – Fixed Costs – Variable Costs – Break-Even Analysis - Its Uses and limitations.

Reference Books

1. S.Sankaran, Business Economics, Margham Publications, Chennai.
 2. Business Economics - Kalyani Publications.
 3. Business Economics – Himalaya Publishing House.
 4. Aryasri and Murthy Business Economics , Tata McGraw Hill.
 5. Business Economics, Maruthi Publications.
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K V R Govt. College for Women (A) KURNOOL

DEPARTMENT OF COMMERCE
Syllabus for I.B.Com (GENERAL)

Business Economics - II

Objectives: To make the students acquire the conceptual knowledge of Business Economics in Production analysis and to equip the students with the knowledge of Market Structure and it's , to acquire the Concept of National Income and Its Measurements and Business trade cycles.

Unit-I: Production and Costs: Techniques of Maximization of output, Minimization of costs and Maximization of profit - Scale of production - Economies and Dis-economies of Scale - Costs of Production – Cobb-Douglas Production Function.

Unit-II: Market Structure-I: Concept of Market - Market structure - Characteristics – Price Determination in Perfect competition in the short and long run. Monopoly- characteristics - Price Determination in the short and long run - Defects of Monopoly – Distinction between Perfect competition and Monopoly.

Unit-III National Income: National Income – Meaning and Definition - Measurement of National Income - production method or value added method - income method - expenditure method.

Unit-IV Structural Reforms: Concepts of Economic liberalization, Privatization, Globalization - WTO Objectives Agreements - Functions

Unit-V Trade Cycles: Meaning - Phases - Benefits of International Trade - Balance of Trade and Balance of payments.

Reference Books:

1. Aryasri and Murthy, Business Economics, Tata McGraw Hill
 2. H.L Ahuja, Business Economics, Sultan Chand & Sons
 3. KPM Sundaram, Micro Economics
 4. Mankiw, Principles of Economics, Cengage Publications
 5. Mithani, Fundamentals of Business Economics, Himalaya Publishing House
 6. DAR Subrahmanyam&VHariLeela, A Text Book on Business Economics, Maruthi Publishers.
 7. A.V. R. Chary, Business Economics, Kalyani Publishers, Hyderabad.
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PG SYLLABUS

2018-2019



BOTANY



**K.V.R.Govt. COLLEGE FOR WOMEN (A),
KURNOOL**

(Under the Jurisdiction of Rayalaseema University)

Accredited with "A" Grade by NAAC



BOARD OF STUDIES MEETING

2018-19

Subject: M.Sc BOTANY

K.V.R. Govt. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL



ACCREDITED BY NAAC WITH 'A' GRADE,

Established in 1958 under G.O.Ms.No.197 Edn. Dt.27-01-1958

DEPARTMENT OF BOTANY

CURRICULUM(CBCS)- M.Sc (Botany)
(syllabus W.e.f Academic Year 2018-19)

SEMESTER -1

S.NO	PAPER CODE	TITLE OF THE PAPER	NO OF CREDITS	SEMESTER END EXAM DURATION	TOTAL MARKS	
					IAE	SEE
THEORY						
1	1111	BIOLOGY AND DIVERSITY OF BACTERIA, FUNGI, VIRUSES &PLANT PATHOLOGY	4	3	20	80
2	1121	BIOLOGY AND DIVERSITY OF ALGAE,BRYOPHYTA AND PTERIDOPHYTA AND GYMNOSPERMS	4	3	20	80
3	1131	PLANT TAXONOMY	4	3	20	80
4	1141	PLANT PHYSIOLOGY	4	3	20	80
PRACTICALS						
1	1111& 1121	BIOLOGY AND DIVERSITY OF BACTERIA, FUNGI, VIRUSES &PLANT PATHOLOGY& BIOLOGY AND DIVERSITY OF ALGAE,BRYOPHYTA AND PTERIDOPHYTA AND GYMNOSPERMS	4	3		100
2	1131& 1141	PLANT TAXONOMY& PLANT PHYSIOLOGY	4	3		100

Total credits: 24

SEMESTER -II

S.NO	PAPER CODE	TITLE OF THE PAPER	NO OF CREDITS	SEMESTER END EXAM DURATION	TOTAL MARKS	
					IAE	SEE
THEORY						
1	2111	CELLBIOLOGY AND PLANT DEVELOPMENT	4	3	20	80
2	2121	MOLECULAR GENECTICS AND TECHNIQUES IN BIOLOGY	4	3	20	80
3	2131	PLANT BIOCHEMISTRY	4	3	20	80
4	2141	OPEN ELECTIVE- PLANT AND HUMAN WELFARE	4	3	20	80
PRACTICALS						
1	2111& 2121	CELLBIOLOGY AND PLANT DEVELOPMENT & MOLECULAR GENECTICS AND TECHNIQUES IN BIOLOGY	4	3		100
2	2131	PLANT BIOCHEMISTRY	2	3		50

Total credits : 22

RESOLUTIONS

The members of BOS in Botany met on 7-08-2019 in the Department of Botany, KVR Govt. Degree College for Women(A), Kurnool under the chairmanship of **Dr.R. Vinolya Kumari** Incharge of M.Sc. Botany Course, discussed the proposals on the curriculum for the I year PG Botany course and passed the following resolutions applicable to the academic year 2019-20.

- Resolved to follow the Rayalaseema university revised syllabus in Botany for I M.Sc., Semester-I and Semester-II as decided by the expert members and members of the Board of Studies (PG) Botany.
- It is unanimously resolved that there is 20% change in theory syllabus for First year M.Sc., The question paper pattern for theory shall have two sections . Section - A for 20 marks and Section - B for 40 marks. IAE: Internal assessment marks -20Marks(Internal examination 15, Seminar5) and extracurricular activity : NSS,YOUTHRED CROSS,NCC.

- The BOS chairman is authorized to give the panel of Internal and external examiners to the controller of Examination
 - Resolved to approve the new syllabus in Botany for I M.Sc., Semester-I and Semester-II
 - The new syllabus will come into effect from the academic year 2019-20 for I M.Sc. Semester-I and Semester-II.
 - Resolved to conduct the practical examinations at the end of Semester-II for I M.Sc. students.
1. In each Semester there will be four papers i.e. four Core papers for Semester-I, for Semester-II There are three paper and one open Elective paper These Semester End Examinations will be for 80 Marks .
 2. Internal Assessment Examination will be for 20 Marks.
There will be two Internal Assessment Examinations in each semester.
(Average of two to be taken).

Seminar/Assignment/Project is given the weight age of 5 Marks.

Total Internal Assessment Marks =15 + 5 = 20 Marks

3. Model Question Paper for Semester End Examination :
 - i) The Semester End Examination Question Paper consists of
Part A with four questions to be answered out of eight questions of five marks each (4x 5 = 20) and

Part B with four questions of internal choice carrying 15 marks each (4 x 15 = 60)
 - ii) Duration is 3 Hours
 - iii) Maximum marks are 80 and Minimum Passing marks are 30.
 4. Model question paper for IAE.
 - vii) Internal Assessment Examination will be for 20 marks.
 - viii) One big question and one short answers
 - ix) Duration of Internal Assessment Examination is 45 minutes.
 - x) The above pattern stands for Semester-I and Semester-II.
 5. Practical Examination:-
-

- i) There will be **one** Practical Examination at the end of Semester-II.
- ii) Maximum marks for Practical Examination is 100.
- iii) Minimum passing marks for Practicals are 20.
- iv) Duration of Practical Examination is 3 hours.
- v) There will be no Internal Assessment Examination in Practical Examination.

Scheme of valuation for each subject paper Practical Examination:

Practical-I

i)	Major Experiment	20 Marks
ii)	Minor Experiment	10 Marks
iii)	Spotters	10 Marks
iv)	Record	05 Marks
v)	Viva	05 Marks
	Total =	50 Marks

- 6. Resolved to approve the syllabus (Theory Semesters I, II) as prescribed below
- 7. Resolved to approve the Model Papers for I-M.Sc. Semester-I and Semester-II as per
- 8. Resolved to follow the CBCS Semester pattern with a total of 96 Credits for 2400 marks.
In each semester :
 - Four instructional hours per week has been given four Credits for Theory and
 - Three instructional hours per week considered as two credits for Practicals.
 - Each open Elective has been given four credits
 - Dissertation of Project work in last semester along with Viva and Seminar has been given four credits.

K.V.R. Govt. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

ACCREDITED BY NAAC WITH 'A' GRADE,

DEPARTMENT OF BOTANY



SEMESTER -1

BOT1111- BIOLOGY AND DIVERSITY OF BACTERIA, FUNGI, VIRUSES & PLANT PATHOLOGY

Unit-I: Bacteria and Phytoplasma

General account; classification, ultrastructure, cell wall of bacteria, nutrition, reproduction: fission and genetic recombination (transformation, transduction and conjugation), economic importance (useful and harmful aspects), symbiotic and asymbiotic nitrogen fixation by bacteria. Phytoplasma; general characteristics and economic importance.

Unit- II: Fungi

General characteristics of fungi, cell wall composition, nutrition: (Saprobic, biotrophic, symbiotic); reproduction: (vegetative, asexual, sexual), heterothallism, Heterokaryosis; Parasexuality, recent trends in classification and Ainsworth's classification of fungi. economic importance of fungi (in industry, as medicine and food, biocontrol agents). Lichens: structure and reproduction, mycorrhizae. Mushroom cultivation methods

Unit-III: Viruses

General characters, virus genetic material, ultrastructure of virions, isolation and purification of viruses; chemical nature, replication and transmission of viruses (by grafting, seeds, contact, water, air, soil, agricultural tools, insects). Economic importance of virus. viral diseases in plants. Viroids and Prions.

Unit –IV: Plant Pathology

Classification of plant diseases and symptomology. Mechanism (s) of pathogenesis and resistance and disease control measures (physical, chemical and biological control). Case studies of economically important causative agents with special reference to crop plants. Plant-virus interaction with emphasis on-TMV & BYMV, Plant-bacterial interaction with emphasis on blight of paddy & citrus canker; Plant-fungus interaction with emphasis on-downy mildew of bajra, club root of crucifers, red rot of sugarcane, leaf spot and tikka diseases of groundnut. Beneficial interactions of mycorrhizae.

Practicals:

1. Gram staining of Bacteria
 2. Demonstration of motility in Bacteria.
 3. Determination of microbial counts by using Hemacytometer.
 4. Morphological study of fungi belonging to Myxomycota, Zygomycotina, Ascomycotina, Basidiomycotina and Deuteromycotina
 5. Observation of properties and fixatives of various viruses
-

6. Study of symptomology of locally available diseased specimens.
7. Isolation of fungi from soil: media preparation, dilution plate technique.
8. Study of Crustose and Foliose lichens
9. Mushroom cultivation

Suggested Readings:

1. Ainsworth G.C., E.K.Sparrow & A.S.Sussman, 1973.The Fungi-An advanced treatise. Academic Press.
 2. Alexopoulos, C.J., Mims, C.W. and Blackwel, M. 1996. Introductory Mycology. John Wiley & Sons Inc.
 3. Bilgrami, K.S. & H.C. Dube (1990) : A Text Book of Plant Pathology, Vikas publishing House Pvt., Ltd.,New Delhi, India.
 4. Burnett, J.H. (1968) : Fundamentals of Mycology. Edward Arnold (Publishers) Ltd., London. 5.
 - Dube, H.C . (1992) : A Text Book of fungi, Bacteria & Virus, Vikas Publishing House (P) Ltd., New Delhi.
 5. Mandahar, C.L. 1978. Introduction to Plant viruses. Chand & Co., Ltd., Delhi.
 6. Mehrotra, R.S. and Aneja, K. R. 1998. An Introduction to Mycology. New Age International Press.
 7. Mehrothra, R.S (1994) : Plant Pathology, Tata McGraw Hill Publishing Co., Ltd., New Delhi 9.
 - Pandey, B.P. (1999) : Plant pathology-Pathogens & Plant Diseases, S. Chand & Co., New Delhi-492 pp.,
 8. Pelczar, M.J., E.C.S.Chan & N.R.Krieg. 1986. Microbiology. Tata McGraw Hill, New Delhi. 11.
 - Rangaswamy, G. and Mahadevan, A. 1999. Diseases of Crop Plants in India (4th Ed.) Prentice Hall of India Pvt. Ltd., New Delhi.
 9. Sharma, P.D. 2000. Plant Pathology. Narosa Publishing House, India.
 10. Singh, R.S. (2000) : Introduction to Principles of Plant pathology (3rd Edition), Oxford & IBH Publishers, New Delhi.
 11. Sullia, S.B. and Shantharam, S. 2000. General Microbiology. Oxford & IBH Publ. , New Delhi.
 12. Webster, J. (1999) : Introduction to Fungi (2nd edition), Cambridge University Press 16. R. Hall (2005). Plant Virology. Printice Hall
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MODEL QUESTION PAPER
KVR GOVT. COLLEGE FOR WOMEN (A), KURNOOL
SEMESTER-II END EXAMINATIONS
M.SC- BOTANY
PAPER BOT1111- BIOLOGY AND DIVERSITY OF BACTERIA, FUNGI, VIRUSES
&PLANT PATHOLOGY

Time: 3Hrs.

Max. Marks: 80M

(Instruction to Q.P.Setters: Set **atleast TWO** question from each unit)

SECTION-I

Answer any FOUR the questions

4x5M= 20M

1. Biofuel
2. Algal Blooms
3. Polytrichum Capsule
4. Conservation of Bryophytes
5. Telom theory
6. Heterosory and Seed habit
7. Process of fossilization
8. Pteridospermales

SECTION-II

4x15M=60 M

Answer the following Questions

9. Slient features of Rhodophyta
Or
 10. Slient features of Chlorophyta
 11. Write about Jungermanniales
Or
 12. Diversity and evolution of Gametophyte in Bryophyta
 13. Write about Steelar evolution in Pteridophyta
Or
 14. write about Pteris
 15. Write about Gingobiloba
Or
 16. Brief description about Bennitiales
-

BOT 1121: BIOLOGY AND DIVERSITY OF ALGAE, BRYOPHYTA, PTERIDOPHYTA & GYMNASPERMS

UNIT – 1: ALGAE

General characters of algae -thallus diversity, pigmentation . Recent trends in classification of algae - a general account. Salient features and classification of Cyanophyta , Rhodophyta, Phaeophyta, Bacillariophyta and Chlorophyta. Economic importance of algae: Algae as food, biofertilizers; industrial products; biofuels; harmful algae-algal blooms.

UNIT II: BRYOPHYTES

General characters and classification of Marchantiophyta; Anthocerotophyta and Bryophyta. Salient features of the orders and representatives: Marchantiales (Marchantia), Jungermanniales (Porella), Anthoceratales (Anthoceros) and Polytrichales (Polytrichum). Diversity and evolution of gametophyte and sporophyte. Ecology and Conservation of bryophytes.

UNIT III: PTERIDOPHYTES

General characters and classification of pteridophytes. salient features of representatives: Psilotopsida (Psilotum), Lycopsidea (Lycopodium), Equisetopsida (Equisetum), Marratiopsida (Angiopteris) and Polypodopsida (Pteris). Origin and phylogeny of pteridophytes- telome theory , stelar theory. Heterospory and Seed habit.

UNIT IV: GYMNASPERMS AND PLANT FOSSILS

General characters and classification of divisions and salient features of representatives: Cycadophyta (Cycas), Pinophyta (Pinus), Ginkgophyta (Ginkgo) and Gnetophyta (Gnetum). Economic importance of gymnosperms. Principles of Paleobotany - process of fossilization; types of fossils. Salient features and evolutionary significance of fossil gymnosperms - Pteridospermales and Bennitiales.

PRACTICALS

1. Observation of representatives of all groups in the natural habitat.
2. Morphological study of representative members of all groups using whole mount preparations and sections.
3. Study of morphology and anatomy of vegetative structures of Algae, Bryophytes, Pteridophytes and Gymnosperms
4. Each student has to submit herbarium specimens and a report on field study.
5. Study of fossils from Pteridophytes and Gymnosperms.

SUGGESTED READINGS:

Agashe S.N. 1995. *Paleobotany*. Oxford & IBH, NewDelhi
Bernard Goffinet & Jonathan Shaw. 2008. *Bryophyte Biology*. 2nd ed. Cambridge University Press.
Bhatnagar, S.P. & Alok Mitra. 1997. *Gymnosperms*. New Age Int. (P) Ltd.
Charles C. Beck and Charles B. Beck. (Ed). 1988. *Origin and Evolution of Gymnosperms*. CUP.
Chopra, R.N. & P.K. Kumar. 1988. *Biology of Bryophytes*. Wiley Eastern.
Graham, J.E., Lee, W. Wilox & L.E. Graham. 2008. *Algae*. 2nd ed. Benjamin Cummings

Sambamurthy AVSS. 2005. *A Text Book of Bryophytes, Pteridophytes, Gymnosperms and Paleobotany*. IK International Pvt. Ltd.

Sporne, K.R. 1965. *Morphology of Gymnosperms*. HUP, London

Sporne, K.R. 1976. *Morphology of Pteridophytes*. HUP, London

Van den Hoek , Christian D. Mann & H.M. Jahns *et al.* 1995. *Algae, An introduction to phycology*. Cambridge University Press.

Vashista, P.C. 2005. *Gymnosperms*. S.Chand & Co., New Delhi

Vashista, P.C. 2005. *Pteridophyta*. Revised ed., By Sinha and Anil. S. Chand & Co, New Delhi.

Vashishta, B.R., V.P.Singh & A.P. Sinha. 2012. *Botany for Degree Students: Algae*. 34th ed. S. Chand & Co, New Delhi.

Vashishta, B.R., A.K. Sinha & Adarsh Kumar . 2011. *Botany for Degree Students Part III Bryophyta..* 3rd ed. S. Chand & Co, New Delhi

MODEL QUESTION PAPER
KVR GOVT. COLLEGE FOR WOMEN (A), KURNOOL
SEMESTER-II END EXAMINATIONS
M.SC- BOTANY
PAPER BOT 1121- BIOLOGY AND DIVERSITY OF ALGAE, BRYOPHYTA,
PTERIDOPHYTA &GYMANOSPERMS

Time: 3Hrs.

Max. Marks: 80M

(Instruction to Q.P.Setters: Set **atleast TWO** question from each unit)

SECTION-I

Answer any FOUR the questions

4x5M= 20M

1. Biofuel
2. Algal Blooms
3. Polytrichum Capsule
4. Conservation of Bryophytes
5. Telom theory
6. Heterosory and Seed habit
7. Process of fossilization
8. Pteridospermales

SECTION-II

4x15M=60 M

Answer the following Questions

9. Slient features of Rhodophyta

Or

10. Slient features of Chlorophyta

11. Write about Jungermanniales

Or

12. Diversity and evolution of Gametophyte in Bryophyta

13. Write about Steelar evolution in Pteridophyta

Or

14. write about Pteris

15. Write about Gingobiloba

Or

16. Brief description about Bennitiales

PAPER BOT 1131: PLANT TAXONOMY

UNIT – 1: ANGIOSPERMIC CLASSIFICATION AND PHYLOGENY

Plant taxonomy- scope and significance. History of plant classifications: Artificial, Natural and Phylogenetic classifications. Natural system- Bentham and Hooker's classification. Principles of phylogenetic classifications–data sources; Plesiomorphy, apomorphy; monophyly and polyphyly. Cladograms and Phylogenetic trees. Angiospermic Phylogeny Group classification (APG-III). Clades, Orders and Families. A Comprehensive account on origin, phylogeny and diversification of angiosperms.

UNIT –II: FLORISTIC STUDIES AND HERBARIUM METHODOLOGY

Plant explorations around the world – a general account. Floristic inventories in India – a general account. Botanical Survey of India - organisation and activities. Flora of Andhra Pradesh – a general account; endemic plants and threatened taxa. Herbarium methodology- methods of collection, processing and preservation of plant specimens. Significant herbaria of the world and India.

UNIT – III: PLANT IDENTIFICATION AND NOMENCLATURE

Process of identification- conventional and modern approaches; Preparation of taxonomic keys. Taxonomic literature- floras, journals and databases. International Code of Nomenclature(ICN)- Principles, Rules and Recommendations; taxonomic hierarchy-species, genera and families; typification , rule of priority; concept of names and author citation; effective and valid publication. Describing a new species.

UNIT – IV: STUDY OF SELECTED ANGIOSPERMIC CLADES-ORDERS

Salient features , distribution and diversity of the following groups (based on APG –III); ANITA Grade; Magnolids (Magnoliales- Annonaceae); Monocots (Asparagales- Orchidaceae); Commelinids (Poales- Poaceae); Fabids (Fabales- Fabaceae, Malpighiales- Euphorbiaceae); Malvids (Malvales- Malvaceae, Caryophyllales-Amaranthaceae); Lamids (Gentianales- Apocyanaceae, Solanales- Solanaceae, Lamiales- Lamiaceae); Campanulids (Asterales- Asteraceae).

PRACTICALS

1. Study of about 25 wild taxa representing different families and identification to species level
 2. Study of flora of the college campus
 3. As a part of Botanical Tour, student should observe and record the flora and vegetation types of the study area and submit a report at the time of practical examination
 4. Part of practical, student should submit 50 herbarium specimens of common wild plant taxa
 5. Construction of Taxonomic Keys
 6. Nomenclatural exercise
-

SUGGESTED READINGS:

- Angiosperm Phylogeny Group website. 2015. Consult [www.apgweb](http://www.apgweb.org).
- Gamble & Fischer 1915-35. *Flora of Presidency of Madras*. 3 Vols. BSMS, Dehradun
- Heywood, V.H., RK Burmmit, A. Culham, O. Seberg. 2007. *Flowering plant Families of the World*. Firefly books Ltd. New York.
- Judd, W.S., Christopher, S. Campbell, Elizabeth A. Kellogg, Peter F. Stevens and Michael J. Donoghue. 2007. *Plant Systematics: A Phylogenetic Approach*, 3rd ed. Sinauer.
- Lawrence, G.H.M. 1951. *Taxonomy of vascular plants*. McMillan, New York.
- Naik, V.N. 1992. *Taxonomy of Angiosperms*. 2nd Edn. Tata Mc Graw Hill Publications.
- Pullaiah, T. 2005. *Taxonomy of Angiosperms*. Regency publications, New Delhi.
- Pullaiah, T. et al. 1997. *Flora of Andhra Pradesh*. 4 Vols. Scientific Publishers, Jodhpur
- Radford, A.E. et al. *Vascular plant systematic*. Harper & Row. New York.
- Ravi Prasad Rao, B. 2014. *The Plant Directory*. Anusha Publishers, Hyderabad.
- Simpson, Michael G. 2006. *Plant Systematics*. Elsevier & Academic Press.
- Singh, Gurucharan. 2005. *Plant Systematics*. Oxford & IBH. New Delhi.
- Sivarajan, V.V. 1991. *Introduction to Principles of Plant Taxonomy*. Oxford & IBH. New Delhi.
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Model Question Paper
FIRST YEAR M.Sc. Botany- SEMESTER-I
PAPER PAPER BOT 1131: PLANT TAXONOMY

Time: 3 Hrs

Max. Marks:80

SECTION-I (Short Answer Type)

4 x 5M = 20 Marks

Answer any 4 of the following

1. Plesiomorphy & Apomorphy
2. Taxonomic Keys
3. Endemic Plants
4. Significant herbaria of the World&India
5. ANITA Grade
6. Typification
7. Spikelet in Poaceae

SECTION-II (Essay Type)

4x15M=60 Marks

Answer the following Questions

8. Describe the salient features of APG Classification and add a note on its merits and demerits
or
 9. Explain briefly the current views on the Origin of Angiosperms.
 10. Write a detailed account on the organization and activities of BSI
or
 11. Write an account on Herbarium methodology.
 12. Explain any 3 basic rules of ICBN.
or
 13. Write an essay on Taxonomic keys.
 14. Describe the Salient features of the family Orchidaceae.
or
 15. Describe the Salient features of the family Asteraceae.
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BOT1141 : PLANT PHYSIOLOGY

UNIT I: PLANT AND SOIL WATER RELATIONS

Thermodynamic concept of plant cell and water relations. Water Potential, Osmotic potential and Pressure potential. Dynamics of SPAC. Active and Passive absorption of Ions. Essential elements- functions and deficiency symptoms. Stomatal structural features; mechanism of stomatal movements and stomatal Index. Stomatal responses to environmental factors, antitranspirants and their importance in drought resistance.

UNIT II: PHOTOSYNTHESIS

Current knowledge on mechanism of photosynthesis- LHCs, photochemical reactions, electron transport in chloroplasts. photophosphorylation. Carbon fixation pathways- Reductive PPP and its regulation by light and metabolites; C4 pathway; CAM Pathway; C-3, C-4 Intermediates. Photosynthesis vs. Plant productivity. Photorespiration- Glycolate pathway, Significance of photorespiration.

UNIT III: RESPIRATION AND PLANT GROWTH REGULATORS

Significance of Plant Respiration; Glycolysis, TCA Cycle, ETS and ATP synthesis. Pentose Phosphate Pathway. Glyoxylate cycle, Alternate oxidase system. Biosynthesis and mechanism of action of plant growth regulators- Auxins, Gibberellins, Cytokinins, Brassinosteroids, Abscissic acid, Jasmonic acid and salicylic acid. Role of hormones in agriculture. Physiology of flowering- Kinetics of phytochrome; Photoperiodism

UNIT IV: STRESS PHYSIOLOGY: Concept of stress and strain; Kinds of stress; Abiotic stress-Water stress; Salt stress; Temperature stress; Heavy metal stress; Biotic stress factors-Stress avoidance and tolerance mechanisms; structural, physiological, biochemical and molecular responses of plants to environmental stress; Reclamation of saline soils and heavy metal contaminated soils.

PRACTICALS

1. Determination of total chlorophyll content and a/b ratio in leaves.
 2. Extraction and Estimation of Chlorophyll pigments.(Arnan method).
 3. Separation of chloroplast pigments into two or four groups. Record of their absorption spectra
 4. Determination of cell permeability by using Beet Root tissues.
 5. Determination of stomatal index and frequency in leaves
 6. Determination of water potential of the tissue
 7. Comparative anatomy of C3, C4 and CAM plants
 8. Determination of Titrable acidity (TAN) in leaves of CAM plants
 9. Determination of viability of different seed material.
 10. Estimation of IAA by Salkowski reaction
 11. Determination of membrane stability and chlorophyll stability index
 12. Determination of membrane stability and chlorophyll stability index of stressed plants
8. Estimation of free Proline in stressed plants sample.
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SUGGESTED READINGS

- Buchanan *et al.*, 2001. *Biochemistry and Molecular Biology of plants*.
- Delvin, R.M. 1969. *Plant Physiology*. Affiliated East West New York Ltd.
- Dennis, D.T., D.B. Layzell, D.D. Lefebvre & D. Turpin. 1997. *Plant Metabolism*. 2nd Ed. Addison Wesley Pub Co. New York
- Govindjee, ed. 1982-83. *Photosynthesis*. Vol I & II. Academic Press Inc. New York.
- Hopkins, W. 1998. *Introduction to Plant Physiology*. ELBS & Longman, Essex., England.
- Kocchar and Gujral. 2012. *Comprehensive Plant Physiology*. Mac Milan Pub.
- Raghavendra, S. 1998. *Photosynthesis: A Comprehensive Treatise*. Cambridge University Press, Cambridge, UK
- Salisbury, F.B. and C. S. Ross. 1992. *Plant Physiology*. 4th Ed. Worsworth Publishing & Co. , Belmont, California.
- Taiz and E. Zeiger. 1998. *Plant Physiology*. 2nd Edition. Sinauer Associates Inc Publishers, Massachusetts, USA
- Thomas C. Moore. 1992. *Biochemistry and Physiology of Hormones*. Narosa .
- Wilmer, C.M. & M. Fricker. 1996. *Stomata*. 2nd Ed, Chapman Hall.
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MODEL QUESTION PAPER
KVR GOVT. COLLEGE FOR WOMEN (A), KURNOOL
SEMESTER-II END EXAMINATIONS
M.SC- BOTANY
PAPER BOT1141 : PLANT PHYSIOLOGY

Time: 3Hrs.

Max. Marks: 80M

(Instruction to Q.P.Setters: Set **atleast TWO** question from each unit)

SECTION-I

Answer any FOUR the questions

4x5M= 20M

1. SPAC
2. Antitranspirants
3. Glycolate Path way
4. CAM Path way
5. ATP Synthesis in Respiration
6. Salicylic acid
7. Saline Stress
8. Reclamation of heavy metal contaminated soil

SECTION-II

4x15M=60 M

Answer the following Questions

- 9.Active and Passive absorbtion of ions
OR
 10. Write about the mechanism of Stomatal movement
 11. Write about PPP path way
OR
 12. Write about intermediates of C-3 cycle and it significance
OR
 13. Write about TCA Cycle
OR
 14. Write about Mechanism of action of Auxins and Cytokinins
OR
 15. Write about Temperature Stress
OR
 16. Write about Biochemical and Molecular response of plant to environment.
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SEMESTER –II

BOT 2111- CELLBIOLOGY AND PLANT DEVELOPMENT

UNIT- I: Cell Communication:

Over view of cell organells:General principles: Cell surface receptors and Intracellular receptors; Forms of Intracellular signaling - Autocrine, Paracrine, Contact dependent, Synaptic and Endocrine signaling; Response of cell to signals; Cell surface receptors - Ion channel linked, G-protein linked and Enzyme linked receptors; Intracellular signaling proteins - Different types and their role; Second messengers; cAMP pathway and role of calcium; Cellular interactions:i) Microvilli, Tight junctions, Belt and Spot Desmosomes. ii) Gap junctions - Electrical coupling, the connexon. iii) Permeability to ions and small molecules. iv) Factor mediating cell-self recognition (aggregation factor), Cellular interaction and Cyclic AMP.

UNIT I1: Cell cycle

- **Overview of eukaryotic cell cycle;** Regulation of cell cycle by cell growth and extra cellular signals; Cell cycle check points; Regulation of cell cycle progression - Protein kinases; MPF; Cyclins and Cyclin dependent kinases.; Events of M Phase; Cell Death:i) Apoptosis - Definition, Morphological and Biochemical differences between Apoptosis and Necrosis; Mechanism (Intrinsic pathway and Extrinsic pathway), Inhibitors of Apoptosis and Significance. ii) Cancer Development and causes of Cancer; Properties of Cancer cells; Approaches to Cancer treatment.

UNIT I -Tissue types and Tissue systems in Plants:

Root growth and Development: Root apical meristem; Cell division, Cell expansion and elongation. Differentiation of root; vascular tissue, root hair and Lateral roots formation. Stem growth and development: organization of the shoot apex; cytological and molecular analysis of shoot apical meristems. Tissue differentiation in the shoot; xylem regeneration and Phloem differentiation.

UNIT II Leaf and flower development:

Development of leaf, History, Specialized cells and tissue differentiation. Development and Anatomy of flower, including transition to Flowering and reproductive shoot apex.

Practicals:

1. Preparation of Cytological slides for Mitosis using Root tips.
 2. Preparation of Cytological slides for Meiosis-I using Flower buds; Chiasma Frequency.
 3. Identification of different stages of Mitosis and Meiosis.
 4. Study of tissues and Tissue systems.
 5. Study of internal organization of different types of stems
 - 6 of internal organization of roots.
 7. Study of internal organization of plants showing anomalous secondary growth.
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8. Microscopic examination of vertical sections of leaves such as Polyalthia, Ficus, NeriumNymphaea, maize and Wheat to understand the internal structure of leaf tissues and trichomes, glands etc. =
9. Study epidermal peels of leaves to study the development and structure of stomata and prepare stomatal index.
10. Wood maceration.
11. Preparation of permanent slides -5 slides to be submitted at the time of Examination.

Suggested Readings:

- 1.Cooper Geoffrey, M. - The Cell-A Molecular Approach, ASM Press, Washington.
 - 2.Sharma, A.K & A. Sharma. - Chromosome Techniques: Theory & Practice, Batter Worth.
 - 3.Albert's, A. et al. - Molecular Biology of the Cell, Garland Publishing House, New York.
 - 4.De Robertis, E.D.P. & E.M.F. DeRobertis. - Cell and Molecular Biology, Lippincott Williams & Wilkins, Bombay.
 - 5.Freifelder, D. - Molecular Biology, Narosa Publishing House, New Delhi.
 - 6.Gardener, E. J. & D. P. Snustad - Principles of Genetics, John Willey, New York .
 - 7.Powar, C.B. - Cell Biology.
 - 8.Sambamurthy, A.V.S.S. – Genetics, Narosa Publications, New Delhi
 - 9.Sinnot, E.W., L.C. Dunn & T. Dobzhansky - Principles of Genetics, V Edn, McGraw Hill,
 - 1.Atwell, B.J. Kriedermann, P. E. and Jumbull, C.G.N. (Ed.) 1999. Plants in Action. Adaptation in Nature, performance in cultivation. MacMilan Education, Sydney, Australia.
 - 2.Burgess, J. 1985. An introduction to Plant Cell development. Cambridge Univ. Press, Cambridge.
 - 3.Fahn, A. 1982. Plant Anatomy (3rdEd.), Pergamon Press, Oxford.
 - 4.Fosket, D.E. 1994. Plant growth and Development. A molecular approach, Academic Press, San Diego, USA.
 - 5.Howell, S.H. 1998. Molecular Genetics of Plant Development, Cambridge Univ. Press, Cambridge.
 - 6.Jane, F.W. 1970. The structure of wood. Black, London.
 - 7.Lyndon, R.F. 1990. Plant Development. The Cellular Basis, Unnin Hyman, London.
 - 8.Murphy, T.M. and Thompson, W.F. 1988. Molecular Plant Development, Prentice Hall, New Jersey.
 - 9.Pullaih, T., Naidu, K. C., Lakshminarayana, K. & Hanumantha Rao, B. 2007. Plant Development. Regency Publications, New Delhi.
 - 10.Raghavan, V. 1999. Developmental Biology of Flowering Plants, Springer-Verlag, New York.
 11. Steeves, T.A. and Sussex, TM. 1989. Patterns in Plant Development (2ndEd.). Cambridge Univ Press, Cambridge.
 - 11.Waisel, Y., Esnel, A, and Kafkaki U. (Eds.). 1996. Plant Roots. The Hiden Hall (2nd Ed.), New York, USA.
-

PAPER 2121: MOLECULAR GENETICS AND TECHNIQUES IN BIOLOGY

UNIT I: INHERITANCE, RECOMBINATION AND MAPPING

Mendelian laws of inheritance- an overview. Linkage, Chromosome as a linkage unit, factors affecting linkage; Genetic recombination: types and molecular mechanism of recombination. Factors affecting recombination. Chromosomal mapping; Two factor and Three factor mapping, Mapping by recombinational frequencies. Coefficient of coincidence of double crosses, Interference –types and significance.

UNIT II: MUTATION AND POPULATION GENETICS

Modern concept of gene, Mutations–types. Chromosomal structural aberrations: deficiencies, duplications, translocations, inversions and their significance in evolution. Numerical changes in chromosomes: aneuploidy and euploidy, polyploidy and their significance in evolution; molecular mechanism of mutagenesis.

UNIT III: pH, MICROSCOPY, CENTIFUGATION AND CHROMATOGRAPHY

pH- Measurement of pH, biochemical buffers, Principles and applications of Microscopy- Light microscope, Phase contrast and Electron microscope. Fixation and staining methods. Centrifugation – basic principles of sedimentation, Types of centrifuges. Preparative ultracentrifugation- differential centrifugation, density gradient, analytical ultracentrifugation and applications. General principles, definitions and applications of chromatography. Paper chromatography, thin-layer chromatography, gas-liquid chromatography.

UNIT IV: ELECTROPHORESIS, SPECTROSCOPY AND RADIO ISOTOPE TECHNIQUES

Principles, definition and applications of SDS-PAGE, Agarose gel electrophoresis. Laws of light absorption, Instrumentation and applications of UV-Visible spectrophotometer. Radioisotope Techniques –types of isotopes, radioactive decay. Detection and measurement of radioactivity. Autoradiography, Isotopes used in biology.

PRACTICALS

1. Problems related to Genetics
2. Separation and identification of amino acids by paper chromatography
3. Separation and identification of sugars by TLC
4. Separation and identification of Lipids by TLC
5. Separation of amino acids by Ion –exchange chromatography
6. Separation of proteins by PAGE
7. Separation of Pigments by paper chromatography
8. Isolation and spectrophotometric characterization of plant pigments.

SUGGESTED READINGS

Alberts A *et al.* 1994. *Molecular Biology of cell*. Garland publ. New York.

Cantor, C.R. and P.R. Schimmel. *Biophysical Chemistry* by W.H. Freeman & Co.
 Copper Geoffrey, M. 2000. *The Cell - a Molecular approach*. 2nd Edn. ASM Press, Washington.
 De Robertis EDP & EMF De Robertis . 2001. *Cell and Molecular biology*. Lippincott Williams & Wilkins.
 Freifelder D. 1990. *Molecular biology*. Narosa publication house, New Delhi.
 Gardner E J & D P Snustad 1996. *Principles of Genetics*. John Willey, New York.
 Glasel A. and M.P. Deutscher. 1995. *Introduction to Biophysical Methods for Protein and Nucleic Acid Research*. Academic Press.
 John M. Wrigglesworth. 1983. *Biochemical research technique (A Practical Introduction)*
 Strickberger MW 1996. *Genetics* III edn. McMillan, New York.
 Cooper, T.G. *The tools of Biochemistry*. Wiley Eastern.
 Vanholdem, K.E. and W.C. Johnson. 1988. *Principles of Physical Biochemistry*. Wilson & Walker.
 1986. *Practical Biochemistry: Principles & Techniques*. Cambridge University Press.

MODEL QUESTION PAPER
KVR GOVT. COLLEGE FOR WOMEN (A), KURNOOL
SEMESTER-II END EXAMINATIONS
M.SC- BOTANY
PAPER 2121 : MOLECULAR GENETICS AND TECHNIQUES IN BIOLOGY

Time: 3Hrs.

Max. Marks: 80M

(Instruction to Q.P.Setters: Set **atleast TWO** question from each unit)

SECTION-I

Answer any FOUR the questions

4x5M= 20M

Model Question Paper
FIRST YEAR M.Sc. Botany- SEMESTER-II
PAPER 202: MOLECULAR GENETICS AND TECHNIQUES IN BIOLOGY

Time: 3 Hrs

Max. Marks:75

PART –A (Short Answer Type)

5 x 6M = 30 Marks

Answer any 5 of the following

1. Write about factors affecting linkage
 2. Coefficient of coincidence
 3. Two factor chromosome mapping
 4. Write about Molecular mechanism of mutagenesis
 5. Paper Chromatography
-

6. Spectrophotometer
7. SDS –PAGE
8. Types of Isotopes

PART –B (Essay Type)

3 X 15M = 45 Marks

Answer the following Questions

9. Write about molecular mechanism of recombination

Or

10. Write about linkage

11. Write about chromosomal structural aberrations with suitable examples.

Or

12. Write about Numerical changes in the Chromosomes

13. Write about brief description about Electron Microscope

or

14. Explain Gas-liquid Chromatography and their application

15. The Isotopes used in Biology

OR

16. Write about Spectrophotometry



PAPER 2131 : PLANT BIOCHEMISTRY

UNIT I: BIOENERGETICS

Energy transformation in living systems, Laws of thermodynamics, free energy and standard free energy changes, Phosphate group transfer and ATP, free energy from hydrolysis of ATP, High energy phosphates as currency of cell. Biological oxidation-reduction reactions and their half reactions.

UNIT II: ENZYMES

Nomenclature and classification- Isoenzymes, structure; Ribonuclease, Lysozyme, Chymotrypsin. Mode of action of enzymes; enzyme-substrate complex Inhibition: Competitive, Non competitive and Feed back inhibition. Regulation of enzyme activity. Enzyme Kinetics: Michaelis- Menten equation and Reversible reactions.

UNIT III: CARBOHYDRATES AND PROTEINS

Classification and properties of carbohydrates of Mono (Glucose, Galactose, Fructose), Oligo (Lactose, Maltose, Sucrose) and Polysaccharides: Homopolysaccharides (Starch, Glycogen, Cellulose and Heteropolysaccharides. Gluconeogenesis. Amino acids: Non standard protein and aminoacids, peptides structure and reactions. Proteins: Primary structure and its sequence determination, Secondary, Tertiary and Quarternary structural features of proteins (Ramachandran plot).

UNIT IV: LIPID METABOLISM

Chemical composition of plant lipids. α - Oxidation and β - Oxidation of fatty acids. Biosynthesis of fatty acids - malonyl CoA and long chain saturated and unsaturated fatty acids.

PRACTICALS

1. Estimation of proteins in plant samples by Biuret or Lowry's method
2. Estimation of Reducing sugars in plant samples by Nelson's method.
3. Determination of Amylase activity in germinating seeds
4. Estimation of Amino acids by Ninhydrin method
5. Determination of Catalase activity in germinating seeds
6. Reaction of amino acids and sugars
7. Aminoacid titrations
8. Iodine no and Sophonificatiob number
9. Estimation of Starch.

SUGGESTED READINGS

Buchnan, Gruissen & Jones. 2001. *Biochemistry and Molecular Biology of Plants*.
Dennis, D.T., D.B. Layzell, D.D. Lefebrye & D. Turpin. 1997. *Plant Metabolism*. 2nd ed. Addison Wesley Pub. Co. New York.
Dey and Horborne. 1998. *Plant Biochemistry*. Academic Press.
Heldt, H.W. 1997. *Plant Biochemistry and Molecular Biology*. OUP.
Horton, HR, MoranLA, Ochs RS *et al.*, 2001. *Principles of Biochemistry*, III edn. Prentice Hall.

Lehninger, A.L. 2001. *Biochemistry*. Kalyani Publishers. Ludhiana.
Mathews CK, Van Holde KE and Ahem KG. 2000. *Biochemistry* III edn. Sanfransico. Benjamin Cummings.
Thomas C. Moore. 1992. *Biochemistry and Physiology of Plant Hormones*. II Eds. Narosa Publishers.
Wilkins, M.B. (ed) 1987. *Advanced Plant Physiology*. ELBS & Longman. Essex., England.

Model Question Paper
FIRST YEAR M.Sc. Botany- SEMESTER-II
PAPER 2131: PLANT BIOCHEMISTRY

Time: 3 Hrs

Max. Marks:80

PART –A (Short Answer Type)

4 x 5M = 200 Marks

Answer any 5 of the following

- | | |
|-----------------------------|---------------------------------------|
| 1 Free energy changes | 2 Bio Redox reactions |
| 3 classification of enzymes | 4 Feed back inhibition |
| 5 Polysaccharides | 6 Mechanism of enzyme action |
| 7 Plant lipids | 8 α - oxidation of fatty acids |

PART –B (Essay Type)

34X 15M = 60Marks

Answer the following Questions

9. Explain the laws of thermodynamics involved in biological systems.

OR

10. Write about Different levels of enzyme or protein structures

11. Briefly explain the classification of enzymes

(OR)

12. Derive Michaelis Menten equation

13. Define gluconeogenesis. Explain the steps involved in gluconeogenesis.

(OR)

14. Explain β -oxidation of fatty acids.

15. Write about Malonyl CoA

Or

16. Write about α -Oxidation

PAPER BOT2141: OPEN ELECTIVE –I: PLANTS AND HUMAN WELFARE

UNIT I : PLANTS AND ENVIRONMENTAL VALUES

Plants-Ecosystem services. Direct, Indirect and optional (future possibilities of usage) services. Plants role in soil protection and water conservation. Role of plants in climate change scenario-carbon credits. Plants in combating pollution- Phytoremediation. Exotic and invasive species.

UNIT II: PLANT RESOURCES

Brief account of the following plant Resources(examples limited to 10 under each category)- local,common and botanical names; morphology and utility Edible Resources- Cereals, Millets, Pulses, Spices and Condiments; Vegetables; Starch and Sugar Yielding Plants; Oil yielding plants. Dye yielding plants. Plants as sources of timber and biofuels. Transgenic plants. Herbal medicine.

UNIT III: MUSHROOM CULTIVATION

Introduction, history.Types of mushrooms. Mushrooms available in India- *Volvariella volvacea*, *Pleurotus citrinopileatus*,*Agaricus bisporus*, Mushroom Research Centres; Mushroom cultivation Procedure steps; Storage: Short term and Long term storage; Nutritional and medicinal value of mushrooms; Food Preparation: Types of food prepared from mushrooms; Cost-benefit ratio: Market in India and abroad, export value

UNIT IV: ORGANIC FARMING

Concept of Organic farming, history, objectives. Need of Organic farming in the present scenario. Types and methods of Organic farming. Advantages(benefits to environment and health benefits) and disadvantages of organic farming. Organic manure- types(green manure, vermicompost and vermiwash). Economic potential of Organic farming in India. Production and export of some certified organic products in India.

SUGGESTED READINGS:

- Alan beebay & anne- Maria Brennan. 2008. First Ecology. 3rd ed. Oxford University press.
- Cotton CM. 1996. Ethnobotany: Principles and Applications
- Cunningham, W.P. & M.A. Cunningham. 2007. Principles of Environmental Science- Inquiry and Applications. Tata Mc Graw Hill Publications. New Delhi.
- Hill, Albertt, F. 1952. A Text Book of useful plants and plant products. Tata Mc Graw Hill Publications. New Delhi.
- Kokate , C.K. AP. Purohit & SB .Gokhale. 2000. Pharmacognosy. Nirali Prakasan Publications.
- Rao, RaviPrasad B. 2005. Biodiversity. In Pullaiah.T. (ed) Taxonomy of Angiosperms. Regency Publications. New Delhi. Pp: 287-317.
-

Sambamurthy, A.V.V. S. & N.S. Subbramaniyam 2000. Economic Botany of Crop Plants. Asiatech Publishers Inc.



MODEL QUESTION PAPER
KVR GOVT. COLLEGE FOR WOMEN(A), KURNOOL
SEMESTER-II END EXAMINATIONS
M.SC- BOTANY

PAPER BOT2114OPEN ELECTIVE –I: PLANTS AND HUMAN WELFARE

Time: 3Hrs.

Max. Marks:80M

(Instruction to Q.P.Setters: Set **atleast TWO** question from each unit with internal choice)

SECTION-I

Answer any FOUR the questions

4x5M= 20M

7. Exotic species
8. Carbon credits
9. Spices and Condiments
10. Types of mushrooms
11. Types of food prepared from mushrooms
12. Concept of Organic farming
13. Vermicompost

SECTION-II

Answer all the questions

4x15M= 60M

14. Write an essay on role of plants in soil and water conservation.
OR
 15. Write an essay on Phytoremediation
 16. Cereals and millets.
OR
 17. Transgenic Plants.
 18. Write an essay on mushroom technology.
OR
 19. Write a detailed account on any 2 mushrooms available in India.
 20. Write a detailed account on Organic farming.
OR
 21. Write about the types of Organic manure.
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CHEMISTRY





**K.V.R GOVERNMENT COLLEGE (A), (W),
REACCREDITED WITH 'A' GRADE BY NAAC,
KURNOOL – 518001**

**M.SC CHEMISTRY SYLLABUS – I YEAR
DEPARTMENT OF CHEMISTRY
2018 – 2019**

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

CHOICE BASED CREDIT SYSTEM

M.SC CHEMISTRY - I Semester Syllabus under CBCS

(Effective from the academic year 2018-2019)

S.No	Paper Number	Title of Paper	No. Of Credits	University Exam Duration(Hrs)	Total Marks	
					IA	SEE
1	CHEM-OC 101: Paper I	Inorganic Chemistry -1	4	3	25	75
2	CHEM-OC 102: Paper II	Organic Chemistry-I	4	3	25	75
3	CHEM-OC 103: Paper III	Physical Chemistry – I	4	3	25	75
4	CHEM-OC 104: Paper IV	Chemical Group Theory, Spectroscopy & Errors in Chemical Analysis	4	3	25	75

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M Sc., ORGANIC CHEMISTRY

I SEMESTER SYLLABUS under CBCS

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

CHEM: 101: PAPER-I INORGANIC CHEMISTRY –I

UNIT-I : Metal Ligand Bonding and Magnetic Behaviour of Complexes

UNIT-II : Metal Ligand equilibria in solution and theory of HSAB

UNIT-III : Metal carbonyl and Nitrosyl Complexes

UNIT-IV : Polyacids and organometallic chemistry

UNIT-I: METAL – LIGAND BONDING AND MAGNETIC BEHAVIOUR OF COMPLEXES **15 Hours (1 Credit)**

(i)Metal –Ligand Bonding: Crystal Field Theory (CFT) for bonding in transition metal complexes, crystal field splitting of 'd' – orbitals in octahedral, tetrahedral, tetragonal and square planar fields. Crystal Field Stabilization Energy (CFSE) and its calculation in six and four coordinated complexes, Spectrochemical series with reference to ligands and metal ions. Factors affecting the magnitude of Δ_o in octahedral complexes, Jahn- Teller effect and its consequences. Shortcomings of CFT; Covalency: Evidence for covalency, Nephelauxetic effect; Molecular orbital theory: Concept of Ligand Group Orbitals (LGOs), MO diagrams for octahedral, tetrahedral and square planar complexes, MO treatment of π -Bonds.

(ii)Magnetic Behaviour of Complexes: Types of magnetic behavior, Temperature independent paramagnetism. Magnetic susceptibility and its determination by Gouy's and Faraday's methods. Calculation of Magnetic moment from magnetic susceptibility, spin-only formula, orbital contribution to magnetic moment (Oh and Td Complexes)

UNIT-II: METAL –LIGAND EQUILIBRIA IN SOLUTION AND THEORY OF HSAB 15 Hours (1 Credit)

(i)Metal-ligand equilibria in solution wise and overall formation constants and their interrelationship, Trends in stepwise

formation constants, factors affecting the stability of metal complexes, Chelate effect,

Determination of binary formation constants by pH-metry and spectrophotometric methods.

(ii)Theory of HSAB

Hard and soft acids and bases, Classification, Acid-Base strength and hardness, Symbiosis,

Electronegativity and hardness, Application of HSAB: Biological functions and toxicology of metals, and medicinal applications.

UNIT-III: METAL CARBONYL AND NITROSYL COMPLEXES

Nature of π bonding, classification of π ligands, effect of π bonding on the ligand field splitting energy of octahedral complexes. Π -bonding and spectrochemical series, π -donor ligands and π -acceptor ligands

Metal carbonyls: Synthesis of metal carbonyls, structures of metal carbonyls of the types $M(CO)_n$ ($M=Cr, Fe, Ni$; $n=4-6$), $M_2(CO)_n$ ($M=Co, Fe, Mn$; $n=8-10$), $M_3(CO)_{12}$ ($M=Fe, Ru$ and Os) $M_4(CO)_{12}$ ($M=Co, Rh$, and Ir). IR spectra of metal carbonyls- (i) Detection of bridging CO ligand, (ii) Determination of molecular symmetry and (iii) Determination of bond angles in metal carbonyls. Synergistic effect, EAN and 18- electron rules as applied to metal carbonyls, Electron counting methods- (i) Oxidation State method and (ii) Neutral Atom method, Applications of Metal Carbonyls

Metal Nitrosyls : Synthesis of metal nitrosyls, Bonding , Electron donation by nitric oxide,

Principles of stoichiometry, Models for NO bonding – (i) Covalent model and (ii) Ionic models,

Structures of Metal nitrosyls (1) $[IrCl(PPh_3)_2(CO)(NO)]^+$, (2) $[RuCl(PP_3)_2(NO)_2]^+$,

(3) $[(Cp)CrCl(NO)_2]^+$ (4) $(Cp)_2Cr_2Cl(NO)_4]^+$, (5) $[Co(diams)_2(NO)]^{2+}$ and (6) $[Co(diams)_2(NO)(SCN)]^+$, Detection of bridging NO ligand, Stereochemical control of valency in cobalt complexes, Applications of metal nitrosyls.

UNIT-IV: POLYACIDS AND ORGANOMETALLIC CHEMISTRY 15 Hours (1 Credit)

Polyacids: Introduction to polyacids- Types of polyacids- Isopolyacids, Isopoly molybdates, Isopolytungstates, Isopolyvanadates, Structures of Polyacids $[Mo_7O_{24}]^{6-}$, $(V_{10}O_{28})^{6-}$ and $W_4O_{16}]^{8-}$, Heteropolyacids- properties of heteropolyacids and salts, structures of heteropolyacids and theories , Mialalicopause and Roscneium theories , Pauling's theory and keggins' theory, applications of polyacids.

Organometallic Chemistry: Introduction to 18-electron rule, Classification based on hepticity and polarity of M-C bond, nomenclature of organometallic compounds, Thermal stability-

thermochromism, Preparation, properties of methyl and phenyl organo magnesium, organo boron, organoaluminium and organo silicon compounds.

Reference Books

1. Inorganic Chemistry by J. E. Huheey,. E.A. Keiter and R.A. Keiter, 4th edition, Harper Collins, 1993.

2. Advanced Inorganic Chemistry by F.A. Cotton, G. Wilkinson, C.A. Murillo and M. Bochmann, 6th edition, Wiley Interscience N.Y, 1999.
 3. Coordination Chemistry by F. Basalo and R. Johnson (WA Benjami Inc), 1964.
 4. Inorganic Chemistry, Principles and Applications by I.S. Butler and I.F. Harper, Benjami Cummings, Redwood City, CA, 1989.
 5. Chemistry of Compelxequilibria ,M.T.Beck, Von nostrand Reinhold,London,1990.
 6. Metal Complexes in aqueous solutions, A.E.Martell and R.D. Hancock, Plenum Press
New York.,1996.
 7. Mechanism of Inorganic Reactions by F.Basalo and R.G.Pearson, 2nd Edn.,
 8. Concise Inorganic Chemistry by J. D. Lee, 4th edition, ELBS, 1994.
 9. Concise Inorganic chemistry by J.D. Lee, 5th edition, Blackwell Science Ltd.
1996.
 10. Inorganic Chemistry by J.E.Huheey,E.A.Keiter and R.A.Keiter, 4th edition, Addison
Wesley Publishing Company,New York,2000.
 11. Chemistry of Elements by N. N. Greenwood, Pergamon press.
 12. Organometallic chemistry by R.C Melhotra and A.Singh.
 13. Inorganic Chemistry: G.Wulfsberg (university Science Books)
 14. Modern Inorganic Chemistry W.L.Jolly, 2nd Ed. (McGraw-Hill).
 15. Coordination Compounds. S.F.Kettle 9(supringer).
 16. Magnetochemistry , R.L. Carlin(Supringer-Verlag NewYork)
-

17. Elements of magneto chemistry R.L. Dutta and A.Syamal.2nd Ed.(Affiliated Enst-West Press pvtLtd

18. Introdaton to Ligand Fields B.N. Higgs (Krieger pub Co)



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M Sc., ORGANIC CHEMISTRY

I SEMESTER SYLLABUS under CBCS

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

CHEM: 102: PAPER-II ORGANIC CHEMISTRY –I

UNIT – I : STEREOCHEMISTRY

UNIT- II : CONFORMATIONAL ANALYSIS

UNIT – III : DETERMINATION OF REACTIONS MECHANISM

UNIT- IV : REACTION MECHANISM

UNIT - 1: STEREOCHEMISTRY 15 Hours (1 Credit)

Molecular representations of organic molecules – Wedge, Fischer, Newman and Saw-horse formulae, their description and inter-conservation. Stereoisomerism – Definition and classification.

Molecular symmetry and chirality in organic molecules: Symmetry operations, symmetry elements (C_n , C_i and S_n) – Point group classification. Chiral point groups classifications of stereoisomers based on symmetry and energy considerations – Dissymmetric and asymmetric molecules.

Molecules with a single chiral centre: Chiral manifestations (absence of reflection symmetry, exhibiting optical activity and specific rotations etc). Molecules with a tetra-co-ordinate chiral centre (quaternary ammonium salts, N-oxides, silane derivatives, phosphines and sulfones). Molecules with a tri coordinate chiral centre (tertiary amines, carbanions, phosphines and sulfoxides). Concept of dynamic enantiomerism.

UNIT—II: CONFORMATIONAL ANALYSIS: 15hourss (1 Credit)

Introduction to conformational isomerism and the concept of dynamic stereochemistry, Study of conformations in ethane and 1,2-disubstituted ethane derivatives like butane, dihalobutane halohydrin, ethylene glycol, butane-2,3-diol, amino alcohols and 1,1,2,2-tetrahaloethanes.

Study of conformations of cyclohexane, mono, di and cyclohexene, cyclohexanone (2-alkyl and 3-alkyl ketone effect), 2-halocyclohexanones. Stereo chemistry of decalins. Factors affecting the conformational Stability and conformation equilibrium-Attractive and Repulsive interactions. Conformational effects on the stability and reactivity of diastereomers in cyclic molecules-steric and stereo electronic factors-examples.

UNIT – III: DETERMINATION REACTION MECHANISM 15 Hours (1 Credit)

- A. Energy considerations: a) Kinetics b) Reactivity and rates of reactions c).Catalysis d) Competitive reactions: thermodynamic and kinetic control e).Hammett Equation f) Curtin - Hammett Principle g).Taft Equation
- B. Important Named Reactions with Mechanism:Condensation Reactions: Aldol, Benzoin,Claisen-Schmidt, Dieckmann, Dobner, Knoevenagel and Stobbe condensation.

UNIT – IV: REACTION MECHANISM 15 Hours (1 Credit)

i) Introduction of Nucleophilic Substitution Reactions- S_N^1 , S_N^2 and S_N^1 -mechanisms and stereochemistry – Factors affecting the rate of S_N^1 and S_N^2 reactions such as substrate structure, nature of leaving group, nucleophile and the solvent.

b) Elimination reactions: E_2 , E_1 , E_1CB mechanisms. Orientation of the double bond-regio chemistry of the elimination reactions E_2 -syn- elimination reactions, E_2 -Anti-elimination reaction pyrolytic elimination reactions

Reference Books

1. Stereochemistry of carbon compounds by Ernest L. Eliel
 2. Stereochemistry by V.M. Potapov
 3. Stereochemistry of organic compounds – Principles and applications by D. Nasipuri
 4. Stereochemistry, Conformation and Mechanism by P.S. Kalsi
 5. The third dimension in organic Chemistry by Alan Bassindale
 6. Organic Chemistry by T.J. Solmons
 7. Organic Chemistry by Robert T. Morrison and Robert N. Boyd
 8. A guide book to mechanism in Organic Chemistry by Peter Sykes
 9. Advanced Organic Chemistry: Reactions, Mechanism & Structure by Jerry March.
 10. Reactive Intermediates by Isaac
 11. Mechanism and structure in Organic Chemistry by S. Mukherjee
 12. Name Reactions by Jie
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M Sc., ORGANIC CHEMISTRY

I SEMESTER SYLLABUS under CBCS

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

CHEM - OC: 103: PAPER-III PHYSICAL CHEMISTRY –I

UNIT – I: THERMODYNAMICS- I

UNIT- II: ELECTROCHEMISTRY- 1

UNIT- III: QUANTUM CHEMISTRY – I

UNIT –IV: CHEMICAL KINETICS - I

UNIT - I: THERMODYNAMICS – I

15 Hours (1 Credit)

- i)** Brief review of Thermodynamic concepts – Enthalpy, entropy, free energy. Concept of Entropy – Entropy as a state function – Entropy change in reversible process and irreversible process – Temperature – Entropy diagrams – Entropy change and Phase change – Entropy of mixing – Entropy and disorder.
 - ii)** Free energy and Work function: Concept of free energy – work function and free energy relationships – The Gibb's Helmholtz equations – Conditions of equilibrium – Maxwell relationships.
 - iii)** The third law of Thermodynamics – Entropy at absolute zero, experimental determination of entropy – Entropies of gases – Tests of the third law of thermodynamics.
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UNIT – II: ELECTROCHEMISTRY – I

15 Hours (1 Credit)

- i) Reversible cells – Chemical cells and concentration cells – Types of reversible electrodes
– Electrode potentials. Reactions in reversible cells – Nernst equation – thermodynamic and kinetic derivation – Concentration cells with and without transference. Liquid junction potential and its determination.
- ii) Potentiometric titrations – Determination of pH, Solubility product from EMF measurements.
- iii) Theory of electrolytic conductance – Debye -HuckelOnsager equation and its verification
– Wein effect. Conductometric titrations, Determination of solubility of a sparingly soluble salt.

UNIT – III: QUANTUM CHEMISTRY – I

15 Hours (1 Credit)

- i) A quick review of the following: Black body radiation – Planck's concept of quantization (derivation not required). Photoelectric effect. Hydrogen spectrum. Bohr's theory and its failures – Wave particle duality and uncertainty principle – Significance of these microscopic entities Emergence of Quantum mechanics.
 - ii) Operators: Operators algebra – Commutation of operators, linear operators. Complex functions. Hamiltonian operators. Operators ∇ and ∇^2 . Eigen functions and Eigen values. Degeneracy. Linear combination of Eigen functions of an operator, well behaved functions. Normalized and orthogonal functions.
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- iii) Postulates of Quantum mechanics. Physical interpretation of wave function. Observables and operators. Measurability of properties. Average value of observable. The time dependent and time independent Schrodinger equation.

UNIT – IV: CHEMICAL KINETICS – I

15 Hours (1 Credit)

- i) Theories of reaction rates – Collision theory, steric factor. Theory of Absolute Reaction Rates – Reaction coordinate, activated complex and the transition state. Thermodynamic formulation of reaction rates.
- ii) Unimolecular reactions – Lindeman's theory – Brief explanation of HKRR and Slater's treatments. Termolecular reactions. Complex reactions – Rate expressions for opposing, parallel and consecutive reaction (all first order type).
- iii) Chain reactions: General Characteristics, Steady State treatment $H_2 - I_2$, $H_2 - Br_2$, $H_2 - Cl_2$ reactions. Comparison of hydrogen halogen reactions. Rate expressions for chain reactions.

References:

1. Thermodynamics for Chemists by S. Glasstone.
 2. Atkin's Physical Chemistry by Peter Atkins and Julio de paula.
 3. Introduction to Electrochemistry by S. Glasstone.
 4. Quantum Chemistry by Ira N. Levine.
 5. Introduction to Quantum Chemistry by A.K. Chanda.
 6. Chemical Kinetics by K.J. Laidler.
 7. Atomic Structure and chemical bond by Manas Chandra.
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M Sc., ORGANIC CHEMISTRY

I SEMESTER SYLLABUS under CBCS

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

**CHEM-OC: 104: PAPER-IV: CHEMICAL GROUP THEORY, SPECTROSCOPY &
ERRORS IN CHEMICAL ANALYSIS**

UNIT – I : CHEMICAL GROUP THEORY

**UNIT- II : FUNDAMENTALS OF SPECTROSCOPY& MICROWAVE
SPECTROSCOPY**

UNIT- III : MOSSBAUER SPECTROSCOPY

UNIT –IV :ERRORS IN CHEMICAL ANALYSIS

UNIT – I : CHEMICAL GROUP THEORY: 15 HOURS (1 CREDIT)

Symmetry elements and symmetry operations; Point groups; Mathematically requirements for a point group; Schoenflies notations of point groups; Systematic assignment of molecules to point groups; Group generating elements; sub-groups; Classes; Matrix representation of C_{2V} , C_{3V} and C_{4V} point groups; Reducible and Irreducible representations (IR), Character of a matrix, characters of conjugate matrices; Character of a representation; Properties of Irreducible representation; construction of Character tables(C_{2V} and C_{3V} point groups); Mullikan symbolism rules for IR's; The standard reduction formula: The direct product; Symmetry of normal modes of molecules (C_{2V}).

UNIT-II: FUNDAMENTALS OF SPECTROSCOPY & MICROWAVE SPECTROSCOPY

15Hours(1 Credit)

Electromagnetic radiation – Interaction of electromagnetic radiation with matter- Absorption and Emission. Quantization of energy- Regions of the electromagnetic spectrum and the mode of interactions with molecules. Representation of spectra. Basic components of a spectrometer. Signal to noise ratio. Intensity and width of spectral lines.

Microwave Spectroscopy: Classification of rotating molecules- Diatomic molecules- rigid rotor mode. Intensity of spectral lines. Effect of isotopic substitution on transition frequencies, intensities, non rigid rotor, polyatomic molecules- Spectra of linear and symmetric top

molecules. Selection rules. Techniques and Instrumentation. Stark Effect, Nuclear and Electron spin interactions and effect of External field. Applications: calculation of bond lengths in diatomic molecule

UNIT-III: MÖSSBAUER SPECTROSCOPY

15Hours (1Credit)

Principles of Mossbauer spectroscopy, Resonance line shifts or isomer shift, Quadrupole interactions and Magnetic interactions. Instrumentation, Lamb Mossbauer factor, presentation of spectrum, Selection rules. Applications: Low spin, high spin Fe(II) and Fe(III) complexes, diamagnetic and covalent compounds, biological systems, Investigation of dithiocarbamate and Ruthenium complexes, structure determination of $\text{Fe}_3(\text{CO})_{12}$, Nature of chemical bond, detection of oxidation state, Applications Mössbauer spectroscopy to Tin and Iron compounds.

UNIT-IV: ERRORS IN CHEMICAL ANALYSIS & STATISTICAL EVALUATION OF DATA:

15 Hours(1 Credit)

Systematic and random errors. Accuracy and precision. Ways of expression accuracy and precision, Normal error curve and its equation, Propagation of error, Useful statistical test: test of

significance, the F test, the student 't' test, the chi test, the correlation coefficient, confidence limit of the mean, comparison of two standard values, comparison of standard deviation with average deviation, comparison of mean with true values, significant figures regression analysis (least- square method for linear plots), statistics of sampling and detection limit evaluation.

Course outcome:

The Chemistry students can learn their concepts with basic mathematical tools in addition to the experimental errors which occurred during analysis. It can help to understand the basics of spectroscopic techniques which can be useful to elucidate the structural information of molecules. After completion of this course student can get a basic platform for the further studies of chemical analysis of molecules.

References:

1. Quantitative inorganic analysis by A.I.Vogel
 2. Instrumental methods of analysis by Skoog & West.
 3. Analytical Chemistry by Skoog, West and Holler, Harcourt College Publishers, 1996.
 4. Vogel's Text Book of Quantitative Inorganic analysis by J. Basett Etal Elbs, Longman 1978.
 5. Principles of Instrumental analysis by Skoog Saunders College Publishers, New York 1985.
 6. Instrumental Methods of Analysis, 6th Edition- Willard, Merritt, Dean, Settle, CBS Publications, 1986.
 7. Chemical Structure and Bonding- R.L. Decock and H.B. Gray.
 8. Molecular Structure and Spectroscopy- G. Aruldas, Prentice Hall of India Pvt. Ltd, New Delhi 2001
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9. Modern Spectroscopy- J.M. Hoilas, John Willey
 10. Introduction to Molecular Spectroscopy- G.M. Barrow, Mc Graw Hill.
 11. Spectroscopic Identification of organic compounds – Silverstein, Basseler and Morrill.
 12. Organic Spectroscopy- William Kemp.
 13. Fundamentals of Molecular Spectroscopy- C.N.Banwell and E.A. Mc cash 4th Edition, Tata Mc Graw Hill Publishing Co., Ltd. 1994.
 14. Physical Methods in Inorganic Chemistry – R.S.Drago, Saunders Publications.
 15. Application of Mossbauer Spectroscopy – Green Mood.
 16. NMR, NQR, EPR and Mössbauer Spectroscopy in inorganic chemistry – R.V Parish, Ellis, Harwood.
 17. Instrumental Methods of Chemical Analysis- H.Kaur, PragathiPrakashan, 2003.
 18. Instrumental Methods of Analysis, 7th Edition – Willard, Merrit, Dean, Settle, CBS Publications, 1986.
 19. Molecular Structure and Spectroscopy – G. Aruldas, Prentice Hall of India Pvt.Ltd, New Delhi, 2001.
 20. Mossbauer Spectroscopy – N.N. Green Wood and T.C. Gibb, Chapman, and Hall, Landon 1971.
 21. Analytical spectroscopy – Kamlesh Bansal, Campus books, 2008.
 22. Structural Inorganic Chemistry Mössbauer Spectroscopy – Bhide.
 23. Principle of Mössbauer Spectroscopy – T.C. Gibb, Chapman, and Hall, Landon 1976
 24. Symmetry and Spectroscopy of Molecules by K. Veera Reddy
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M Sc., ORGANIC CHEMISTRY

I SEMESTER SYLLABUS under CBCS

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

**FIRST SEMESTER INORGANIC CHEMISTRY LAB COURSE
Under CBCS**

FIRST SEMESTER (Total Marks 100)

Qualitative semi micro Inorganic analysis:

Semi micro qualitative inorganic mixture analysis contains four cautions. The analysis involves identification and conformation of citations containing the less familiar rare elements such as Tungsten, Molybdenum, Zirconium, Thorium, Titanium, Uranium, Cerium, Vanadium, Lithium, Berkelium Etc...

(A minimum of 4 mixtures are to be analyzed)

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I SEMESTER SYLLABUS under CBCS

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FIRST SEMESTER ORGANIC CHEMISTRY LAB COURSE

Under CBCS

FIRST SEMESTER LAB COURSE (Total Marks 100)

I) Laboratory techniques (For Demonstration Purpose only), Determination of Melting Point /Boiling Point, Ordinary Distillation, Vacuum distillation/filtration, Recrystallization, Drying of Organic Compounds, TLC analysis, Column Chromatography

II) Qualitative Systematic Analysis of single Organic compound,

III) Preparation of single step organic compounds

- i) Aspirin from salicylic acid (Acetylation)
 - ii) β -naphthylmethylether (Methylation)
 - iii) Iodoform
 - iv) Diels-Alder Reaction
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M Sc., ORGANIC CHEMISTRY

I SEMESTER SYLLABUS under CBCS

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

FIRST SEMESTER PHYSICAL CHEMISTRY LAB COURSE

Under CBCS

FIRST SEMESTER (Total Marks 100)

Instrumental methods of Analysis

Conductometry

Titration of strong acid vs strong base (HCl vs NaOH)

Titration of weak acid vs strong base (AcOH vs NaOH)

Titration of mixture of acids (HCl +AcOH) Vs strong base (NaOH)

Potentiometry

Titration of a strong acid vs strong base (HCl vs NaOH)

Titration of weak acid vs strong base (AcOH vs NaOH)

Redox titration (Fe^{2+} Vs $\text{K}_2\text{Cr}_2\text{O}_7$)

Colorimetry

Determination of wavelength of maximum absorbance of a colored solution

Verification of Beers Lambert's law and estimation of given unknown.

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CHOICE BASED CREDIT SYSTEM

FIRST YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

I Semester

(Effective from the academic year 2018-2019)

MODEL QUESTION PAPER

INORGANIC CHEMISTRY

PAPER-I

Time: 3 hrs

Max.Marks:75

Section A

Answer any five questions

(5X5=25)

Each question carries 5 marks

1. Explain the crystal field splitting of energy levels in an octahedral field?
2. Write the important postulates and limitations of Molecular orbital theory?
3. Write about chelate effect?
4. Write about symbiosis?
5. Write the applications of Metal carbonyls?
6. Explain the synthesis of Metal Nitrosyls?
7. Define Isopolyacids and explain the structure of $[\text{Mo}_7\text{O}_{24}]^{6-}$?
8. Write the properties of methyl and phenyl organo magnesium compounds?

Answer all questions

4X12.5=50

9. How can you explain the magnetic properties based on CFT model for six and four co-ordinate complexes with one example each?
Or
 10. Draw and explain MO diagrams of octahedral complexes with sigma and pi bonding with one example each?
-

11. What is meant by step-wise and overall formation constant of a metal complex? Explain the relationship between them? Discuss the factors influencing the stability constant?

Or

12. Write the classification of hard and soft acids and bases and write its applications?

13. What are metal carbonyls? Discuss the vibrational spectra of metal carbonyls with suitable examples?

Or

14. What are Metal Nitrosoyls? Discuss the structural aspects of any two metal Nitrosoyls?

15. Describe Pauling and Keggins theory of heteropolyacids?

Or

16. Write the preparation and properties of Phenylorganomagnesium and organo boron compounds?



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FIRST YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

I Semester

(Effective from the academic year 2018 - 2019)

MODEL QUESTION PAPER

ORGANIC CHEMISTRY

PAPER-II

Time: 3 hrs

Max.Marks:75

Section A

Answer any five questions

(5X5=25)

1. Explain the concept of "Dynamic enantiomerism" with examples?
2. Write a note on Tertiary amines?
3. Write the conformations of halohydrin and explain their stability?
4. Write about 2-alkyl and 3-alkyl ketone effect in cyclohexanone?
5. What is Stereoisomerism? Give their classification?
6. Explain Neighbouring group participation with examples?
7. What are ambient Nucleophiles give examples?
8. Describe Beckmann rearrangement?
9. Explain Hammett equation?

Section B

Answer all questions

4X12½=50

- 10.** (a) Explain how the molecular representations of organic molecules are useful in describing their stereochemistry with examples?
(b) Describe the following terms
- (i) C_n, C_i, S_n

Or

- 11.** (a) What is a chiral manifestation? Explain the examples?
(b) Explain the chemistry of Trico-ordinate chiral centre with examples?

11. Explain the methods of determination of reaction mechanism?

Or

12. Explain the following (a) kinetics of a reaction (b) Reactivity and rates of reaction

(c) Curtin hamett principle (d) Catalysis of a reaction

13. Explain the following with reference to SN1 and SN2 reactions.

(a) Substrate (b) leaving group (c) Nucleophile (d) Solvent

Or

14. Explain the use of I.R and N.M.R in the investigation of reaction mechanism?

15. Describe the mechanism involved in each of the following

(A) Hoffmann rearrangement (b) Wolf rearrangement

Or

16. Describe the mechanism of each of the following

(a) Favorskii rearrangement (b) Sommelet-Hauser rearrangement

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CHOICE BASED CREDIT SYSTEM

FIRST YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

I Semester

(Effective from the academic year 2018-2019)

MODEL QUESTION PAPER

PHYSICAL CHEMISTRY

PAPER-III

Time: 3 hrs

Max.Marks:75

Section A

Answer any five questions

(5X5=25)

1. Explain Enthalpy, Entropy and free energy?
2. Define work function and free energy?
3. Define chemical cells and concentration cells?
4. Explain Nernst equation?
5. Explain Photoelectric effect?
6. Explain about (a) Hamiltonian operator (b) Eigen Functions and eigen values
7. Explain Lindemanns theory of unimolecular reactions?
8. Write general characteristics of Chain reactions?

Section B

Answer all questions

4X12½=50

9. Explain various conditions of equilibrium?

Or

10. Define Entropy at absolute zero and explain the tests of Third law of thermodynamics?

11. Explain about Potentiometric titrations?

Or

12. Explain Debye-Huckel Onsager equation?

13. Write Time dependant and Time independent Schrodinger wave equation?

Or

14. Explain (a) Well behaved functions (b) Normalised and Orthogonal functions
(c) Linear operator

15. Briefly explain HKRR and Slater's treatment of unimolecular reactions?

Or

16. Apply Steady state treatment for $\text{H}_2\text{-Cl}_2$ reactions?

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FIRST YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

I Semester

(Effective from the academic year 2018 - 2019)

MODEL QUESTION PAPER

CHEMICAL GROUP THEORY AND SPECTROSCOPY

PAPER-IV

Time: 3 hrs

Max.Marks:75

Section A

Answer any five questions

(5X5=25)

Each question carries 5 marks

1. Explain about symmetry elements and symmetry operations?
2. Explain about Reducible and Irreducible representations (IR)?
3. What are the basic components of a Spectrometer explain briefly?
4. Explain the classification of rotating molecules?
5. What is meant by hyper fine splitting in E.S.R spectroscopy?
6. Explain the ESR spectra of $[\text{Cu}(\text{H}_2\text{O})_6]^{+2}$?
7. Write the principles of Moss-bauer spectroscopy?
8. Explain selection rules in Moss-bauer spectroscopy?

Section B

Answer all questions

4X12=50

9. Explain the following (a) Point groups (b) Group-generating elements
(c) Matrix representation of C_{2v} , C_{3v} and C_{4v} point groups?

Or

10. Explain the symmetry of normal modes of molecules of C_{2v} point group?
11. Explain the following (a) interaction of EMR with matter (b) Absorption and Emission
(c) Quantisation of energy

Or

12. Discuss the (a) spectra of Linear and symmetric top molecules (b) applications of calculation of bond lengths in diatomic molecules
13. Write about (a) Zero field splitting and Kramer degeneracy
(b) Crystal field effects and crystal field splitting in ESR?

Or

14. Explain the ESR Spectra of (a) Methyl radical (b) Benzene anion (c) $[Fe(CN)_5NO]^{-3}$?
15. Write the applications of Mossbauer spectroscopy for Low spin, high spin of Fe (II) and Fe (III) complexes?

Or

16. Write the applications of Mossbauer spectroscopy to tin and iron compounds?
-

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CHOICE BASED CREDIT SYSTEM

M.SC CHEMISTRY - II Semester Syllabus under CBCS

(Effective from the academic year 2018-2019)

S.No	Paper Number	Title of Paper	No. Of Credits	Univ. Exam Duration(Hrs)	Total Marks	
					IA	SEE
1	CHEM-OC 201: Paper I	Inorganic Chemistry -II	4	3	25	75
2	CHEM OC 202: Paper II	Organic Chemistry-II	4	3	25	75
3	CHEM OC 203: Paper III	Physical Chemistry – II	4	3	25	75
4	CHEM OC 204:Paper IV	Organic Spectroscopy	4	3	25	75

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M Sc., ORGANIC CHEMISTRY

II SEMESTER SYLLABUS under CBCS

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

CHEM: 201: PAPER-I INORGANIC CHEMISTRY –II

UNIT –I : Reaction mechanisms of complexes

UNIT–II: Electronic spectra of transition metal complexes

UNIT-III: Metal-Carbonyl clusters

UNIT-IV: Bioinorganic Chemistry

UNIT-I : Reaction mechanisms of complexes: 15Hours (1Credit)

Reactivity of metal complexes, inert and labile complexes, Kinetics and mechanisms of substitution reactions, kinetics of substitutions reactions in octahedral complexes, acid hydrolysis, Factors affecting acid hydrolysis, Base hydrolysis, Conjugate base mechanism, Anation reactions, substitution reactions in square planar complexes, Trans effect, Mechanism of trans effect, Electron transfer reactions, inner sphere and outer sphere mechanisms, Marcus theory.

UNIT-II: Electronic spectra of transition metal complexes: 15Hours (1Credit)

Free Ion terms and Energy Levels: Configurations, Terms, States and Microstates, calculation of Microstates for P^2 and d^2 Configuration, L-S (Russell- Saunders) Coupling Schemes, J-J Coupling scheme, derivation of terms for P^2 and d^2 configuration. Hole Formulation, Energy ordering of terms (Hund's Rules), Selection rules: Laporte orbital selection rule, spin selection rules. Splitting of energy levels and spectroscopic states Orgel diagrams of d^1 to d^9 metal complexes. Interpretation of electronic spectra of aquo Complexes of Ti(III), V(III), Cr(III), Mn(II), Fe(II), Fe(III), Co(II), Ni(II) and Cu(II). Calculation of interelectronic and spectral parameters for d^8 metal complexes. Tanabe- Sugano diagrams for d^2 and d^6 octahedral complexes. Charge transfer ($L \rightarrow M$ and $M \rightarrow L$) spectra of metal complexes.

UNIT-III: Metal-Carbonyl Clusters: 15Hours (1Credit)

Anionic and hydrido clusters . Low nuclearity clusters (LNCCs) (Triatomic and tetra atomic). Isoelectronic and isolobal relationships. Structural patterns of high nuclearity carbonyl clusters (HNCCs) Electron counting Schemes of HNCCs- Wades rules. The capping rule. HNCCs of the Fe, Ru, and Os group. HNCCs of Co, Rh and Ir group, HNCCs Ni, Pd and Pt; Octahedral metal halide and chalcogenide clusters , Chevrel phases, compounds with M-M multiple bonding, Major structural types (Edge sharing bi-octahedra, face sharing bi-octahedra, tetragonal prismatic and trigonal antiprismatic structure)-Quadruple bond, One dimensional solids.

UNIT-IV: Bioinorganic Chemistry : 15Hours (1Credit)

- i) Essentials and trace elements in biology: Classification, concept of essential, Evolution of essential trace elements, Role of Bulk (structural) elements and minerals, working of essential trace elements, Deficiency signs and specific function of essential trace elements (Fe, Cu, Co, Ni, Zn, F, I, Se). Antagonism and synergism among essential trace elements.
- ii) Oxygen uptake proteins Structural and functional aspects of Hemoglobin(Hb), Myoglobin(Mb), Hemerythrin(He) and Hemocyanine(Hc). Oxygen binding curves for Hb and Mb, structure-function relationships.

- iii) Photosynthesis: Structure of Chlorophyll, photosynthesis in bacteria and in green plants (Z-scheme involving PS I & PS II).

References:

1. Symmetry and Spectroscopy of Molecules, by K. Veera Reddy, New Age International Publishers, New Delhi, 1998.
 2. Concise Inorganic Chemistry by J. D. Lee, ELBS, 4th edition, 1994.
 3. Advanced Inorganic Chemistry by F.A. Cotton and G. Wilkinson, 5th Edn., John Wiley and Sons, New York.
 4. Inorganic Chemistry by J. E. Huheey, E.A. Keiter and R.A. Keiter, 4th edition, Addison Wesley Publishing Company, New York, 2000.
 5. Bioinorganic Chemistry, R.W. Hay, Ellis Horwood Ltd., Chichester, New York. 1984.
 6. Bioinorganic Chemistry, K. Hussain Reddy, New Age International Publishers, New Delhi, 2003.
 7. Reaction Mechanism of metal complexes, Robert W. Hay, Harwood Publishers, Chichester, England, 2000.
 8. Inorganic Reaction Mechanisms, M.L. Toba and John Burgess, Addison Wesley, Longman, 1999.
 9. Mechanism of Reactions in transition metal sites, Richard A. Henderson, Oxford Science Publications, London, 1993.
 10. Kinetics and Mechanisms of Reactions of Transition metal complexes, R.G. Wilkins, 2nd Ed., V.C.H. Publications, 1991.
 11. Mechanisms of Inorganic Reactions, F. Basalo and R.G. Pearson, Wiley Easter, 2nd Ed., 1997.
 12. Inorganic Electronic Spectroscopy by A. B.P. Lever Elsevier
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CHOICE BASED CREDIT SYSTEM

FIRST YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

II Semester

(Effective from the academic year 2018 - 2019)

MODEL QUESTION PAPER

INORGANIC CHEMISTRY

PAPER-I

Time: 3 hrs

Max.Marks:75

Section A

Answer any five questions

(5X5=25)

Each question carries 5 marks

1. Define Labile and Inert complexes with examples?
2. Write notes on acid hydrolysis?
3. What is the term symbol associated with d^8 configuration? Which is the ground state term symbol?
4. Explain L – S coupling?
5. Differentiate anionic and hydrido clusters?
6. Give an account of iso-electric and isolobal relationships?
7. Explain the concept of essentiality and evolution of essential trace elements?
8. Write structural and functional aspects of Haemoglobin?

Section B

Answer all questions

4X12½=50

- a. Explain the ligand substitution reactions of octahedral complexes?

Or

- b. Explain nucleophilic substitution reactions in square planar complexes?
-

- c. Differentiate Orgel diagrams from Tanabe-Sugano diagrams. Draw Tanabe-Sugano diagrams for d^2 configuration?

Or

- d. What are Orgel diagrams? Explain the possible peaks for $[\text{CoCl}_6]^{3-}$ complex using its Orgel diagram?

- e. Explain the following (a) Chevral Phases (b) Wades rules

Or

- f. Explain the structural pattern of High nuclearity Carbonyl clusters?

- g. Discuss the deficiency symptoms and functions of essential trace elements?

Or

- h. Draw the structure of Chlorophyll. Explain the Z-scheme involving PS I and PS II?



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M Sc., ORGANIC CHEMISTRY

II SEMESTER SYLLABUS under CBCS

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

CHEM: 202: PAPER-II ORGANIC CHEMISTRY –II

UNIT- I: Reactive Intermediates and Molecular Rearrangements

UNIT – II: Pericyclic Reactions

UNIT-III: Reagents of Synthetic Importance (Oxidations & Reductions)

UNIT-IV : Heterocyclic Compounds

UNIT- I: Reactive Intermediates and Molecular Rearrangements: 15Hours(1Credit)

Reactive intermediates- Generation, Structure and stability of (i) carbocations, (ii) carbanions, (iii) carbenes, (iv) nitrenes and (v) free radicals.

Molecular rearrangements: Definition & Classification, Molecular rearrangements involving (i) electron deficient carbon Wagner-Meerwein, Pinaco-Pinacolone and Wolf rearrangements. (ii) Electron deficient nitrogen; Hoffman, Lossen, Curtis, Schmidt and Beckmann rearrangements. (iii) Electron deficient oxygen Baeyer-villiger oxidation.

Base catalyzed rearrangements, Benzilic acid rearrangement, Favorskii rearrangement, Trans annular and Sommelet-Hauser rearrangement.

UNIT – II: Pericyclic Reactions : 15Hours(1Credit)

Molecular orbital symmetry. Frontier orbitals of ethylene, 1,3-butadiene, 1,3,5-hexatriene. Classification of pericyclic reactions. Woodward – Hoffmann correlation diagrams. FMO and PMO approach. Electrocyclic reactions – conrotatory and disrotatory motions. $4n$, $4n + 2$. Cycloadditions – antarafacial and suprafacial additions, $4n$, and $4n + 2$.

Sigmatropic rearrangements – suprafacial and antarafacial shifts of H, sigmatropic shifts involving carbon moieties, 3,3-sigmatropic rearrangements. Claisen, Cope and aza-Cope rearrangements.

Unit-III: Reagents Of Synthetic Importance (OxidationsReductions) : 15Hours(1Credit)

- (a) Oxidations: (i) Alcohols to carbonyls:Cr (VI) oxidants, Swern oxidation, SilverCarbonate.
(ii) Prevost and Woodward oxidation. (iii) Oxidations of allylic and benzylic C-H bonds: DDQ and SeO_2 .
- (b) Reductions: (i) Catalytic hydrogenation: Homogeneous hydrogenation-Use of Wilkinsons catalyst. (ii) Dissolving metal reductions including Birch reduction. (iii) Nucleophilic metal hydrides: LiAlH_4 , NaBH_4 , and their modifications. Electrophilic metal hydrides : BH_3 , and AlH_3 . (iv) Hydrogenolysis, use of tri-n-butyltin hydride.
- (c) Organometallic reagents: Preparation and application of the following in organic synthesis :
- (i) Organo lithium and Organo copper reagents. (ii) Organo boranes in C—C bond formation.
-

UNIT-IV:Heterocyclic Compounds: 15Hours(1Credit)

Importance of heterocyclic compounds as drugs. Nomenclature of heterocyclic systems based on ring size, number and nature of hetero atoms. Synthesis and reactivity of Indole, Benzofuran, Benzothiophene, Quinoline, Isoquinoline, Coumarin, Chromone, and Acridine. Synthesis and reactivity of the following Heterocycles : 1,2,3-triazole, 1,2,4-triazole, 1,2,4-oxadiazole, 1,3,4-oxadiazole, 1,2,3-thiadiazole, 1,2,3-triazine. Synthesis and reactivity of benzodiazepines, benzoxepines and benzothiepinines.

References:

1. Conservation of orbital symmetry by Woodward and Hoffmann
 2. Organic reactions and orbital symmetry by Gilchrist and Storr
 3. Pericyclic reactions—a problem solving approach by Lehr and Merchand
 4. Pericyclic reactions by Mukherjee
 5. Mechanism and structure in organic chemistry by S, Mukherjee
 6. Some modern methods of organic synthesis by W. Carruthers
 7. Guide book of organic synthesis by R. K. Meckie, D. M. Smith & R. A. Atken
 8. Reagents in organic synthesis by B. P. Munday and others
 9. Organic synthesis by O. House
 10. Organic synthesis by Michael B. Smith
 11. Reagents for organic synthesis by Fieser&Fieser, Vol. 1-11 (1984)
 12. Hand book of reagents for organic synthesis by Reich and Rigby Vol. I & IV
 13. Organic Synthesis by Robert E Ireland
-

14. The third dimension in organic chemistry by Alan Bassindale
15. Stereochemistry of carbon compounds by Ernest L. Eliel
16. Stereochemistry by V. M. Potapov
17. Stereochemistry of Organic compounds- Principles and Applications by D. Nasipuri
18. Stereochemistry, Conformational and Mechanism By P. S. Kalsi.
19. Heterocyclic chemistry, T. L. Gilchrist, Longman UK Ltd., London(1985)
20. Heterocyclic chemistry, 3rd Edn. J. A. Joule, K. Mills and G. F. Smith, Stanley Thornes Ltd., UK, (1998)
21. The Chemistry of Indole, R. J. Sunderberg, Academic Press, New York (1970)



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CHOICE BASED CREDIT SYSTEM

FIRST YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

II Semester

(Effective from the academic year 2018 - 2019)

MODEL QUESTION PAPER

ORGANIC CHEMISTRY

PAPER-II

Time: 3 hrs

Max.Marks:75

Section A

Answer any five questions

(5X5=25)

Each question carries 5 marks

1. Write the structure and stability of carbocations and nitrenes?
2. Write about Baeyer-villiger oxidation?
3. What are Pericyclic reactions classify them with suitable examples?
4. Write short notes on (a) Con rotation (b) Dis rotation mode of molecular orbitals?
5. Write about Prevost and Woodward oxidation reactions?
6. Explain about Birch reduction reaction?
7. Explain the importance of heterocyclic compounds as drugs?
8. Write about synthesis of Benzofuran?

Section B

Answer all questions

4X12½=50

9. Write about the following reactions (a) Pinacol-pinacolone rearrangement (b) Wolf rearrangement (c) Beckmann rearrangement
 10. Write the following reactions (a) Benzilic acid rearrangement (b) Favorskii rearrangement (c) Sommelet-Hauser rearrangement
-

11. Discuss Woodward Hofmann rules for Thermal and Photochemical cyclo addition reactions of $4n$ and $(4n+2)$ electron systems?

Or

12. What is Cope rearrangement reaction; discuss its mechanism in a pericyclic way with a suitable example?

13. Write oxidation reactions involving (a) DDQ (b) SeO_2 (c) Swern oxidation reaction

Or

14. Write Preparation and applications of Organo lithium and Organo copper reagents in organic synthesis?

15. Explain the synthesis and reactivity indole?

Or

16. Explain the synthesis and reactivity of Iso-quinoline?

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M Sc., ORGANIC CHEMISTRY

II SEMESTER SYLLABUS under CBCS

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

CHEM: 203: PAPER-III PHYSICAL CHEMISTRY –II

UNIT – I: Thermodynamics – II

UNIT – II: Electro Chemistry – II

UNIT- III: Quantum Chemistry – II

UNIT – IV: Chemical Kinetics – II

UNIT – I: Thermodynamics – II: 15Hours(1Credit)

- A. Phase equilibria: Equilibrium between two phases of one component. The Clapeyron equation. The ClausiusClapeyron equation. Applications. Integrated form of Clapeyron equation.
 - B. Phase rule: Thermodynamic derivation of phase rule – Systems of two components. Simple eutectic. Azeotropes. Thermal analysis. Three component systems (Two salts and water). Roozeboom plots.
 - C. The equilibrium constant: Equilibrium in homogeneous gaseous systems. Free energy change in chemical reactions. Vant' Hoff's reaction isotherm. Integrated form. Direction of chemical change. Determination of Standard free energies.
-

UNIT – II: Electro Chemistry – II : 15Hours(1Credit)

- A. Concept of activity and activity coefficient of an electrolyte. The mean ionic activity coefficient. Calculation of mean ionic activity coefficients. Debye Huckel theory of solutions. Debye Huckel Limiting law and its verification.
- B. Electrode polarization – Decomposition potential and over voltage. Influence of C.D. on over voltage. Influence of P^H on over voltage, influence of temperature on over voltage – Theories of over – voltage. Hydrogen over – voltage.
- C. The Deposition and corrosion of metals: Physical nature of electrodeposited metals – 1) Current density 2) Concentration of electrolyte 3) Temperature 4) Colloidal matter 5) Electrolyte 6) Basis metal. Throwing power separation of metals by electrolysis. Electrochemical passivity. Theories of passivity. Corrosion of metals. Hydrogen evolution type.

UNIT – III: Quantum Chemistry – II : 15Hours(1Credit)

- A. Particle in a box. One dimensional and three dimensional. Plot of Ψ and Ψ^2 – Discussion. Degeneracy of energy levels. Comparison of classical and quantum mechanical particles. Calculations using wave functions of the particle in a box – Normalisation and orthogonality, measurability of energy, position momentum, average values and probabilities. Application of the spectra of conjugated molecules.
 - B. Schrodinger equation for the Hydrogen atom – Separation of variables. Quantum numbers n , l and m . Hydrogen like wave functions. Complete wave function angular and radial functions. Radial distribution functions. Hydrogen like orbitals and their representation – Polar plots, Contour plots and boundary diagrams.
-

UNIT – IV: Chemical Kinetics – II : 15Hours(1Credit)

- A. Homogeneous catalysis. Mechanism of catalysis. Equilibrium treatment. Steady state treatment. Acid base catalysis: Mechanism of acid base catalysis. Catalysis by enzymes. Influence of P^H . MicholisMenton law. Influence of temperature.

Examples. Decomposition of acetaldelydecatalysed by Iodine. Catalysed decomposition of hydrogen peroxide.

- B. Free radicals in chemical reactions. Hydrogen oxygen reaction. Upper and lower explosion limits. Heterogeneous reactions. Bimolecular reactions. Adsorption.

Langmuir adsorption isotherm. Electronic theories of chemisorption and heterogeneous catalysis.

- C. Introduction to enzyme catalysis. Michales – Menton Kinetics – Effect of pH and effect of temperature on the rates of enzyme reactions.

References:

1. A Text Book of Thermodynamcis by Rajaram and Kuriakose.
 2. Thermodynamics for Chemistry by S. Glasstone.
 3. Text Book of Physical Chemistry by Levine.
 4. Electrochemistry by S. Glasstone.
 5. Quantum Chemistry by Hanna.
 6. quantum Chemistry by A.K. Chandra
 7. Chemical Kinetics by K.J. Laidler.
-

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CHOICE BASED CREDIT SYSTEM

FIRST YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

II Semester

(Effective from the academic year 2018 - 2019)

MODEL QUESTION PAPER

PHYSICAL CHEMISTRY

PAPER-I

Time: 3 hrs

Max.Marks:75

Section A

Answer any five questions

(5X5=25)

Each question carries 5 marks

1. Describe Claussius-Clayperon equation?
 2. Draw and explain vanthoff reaction isotherm?
 3. Define over voltage? Explain the influence of P^H on over voltage?
 4. Define Corrosion and explain its physical nature?
 5. Discuss the degeneracy of energy levels?
 6. How do you represent Hydrogen like orbitals?
 7. Explain the mechanism of Acid base catalysed reaction with an example?
 8. Discuss the role of free radicals in chemical reactions give suitable examples?
-

Section B

Answer all questions

4X12½=50

9. Draw and explain the phase diagram of a three component system(two salts and water)
Or
10. Define equilibrium constant. Explain the equilibrium in homogenous gaseous system.
11. State and explain Debye-Huckel limiting law and how can you verify the same?
Or
12. Describe the theories of Corrosion of metals by concentration of metals and temperature?
13. Derive the equation for a particle in a three dimensional box?
Or
14. Discuss about the angular and radial distribution functions?
15. Describe the electronic theories of heterogenous catalysis?
Or
16. Discuss the Michaelis-Menton kinetics of enzyme catalysis?
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M Sc., ORGANIC CHEMISTRY

II SEMESTER SYLLABUS under CBCS

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

CHEM: 204: PAPER-IV: ORGANIC SPECTROSCOPY

UNIT – I: UV - Visible Spectroscopy, ORD & CD

UNIT –II: IR & Raman spectroscopy

UNIT –III: ^1H NMR & ESR spectroscopy

UNIT- IV: Mass Spectrometry

UNIT -I: UV - Visible Spectroscopy, ORD & CD 15 Hrs(1Credit)

UV and visible spectroscopy: Various electronic transitions (185-800nm), effect of solvent on electronic transitions, ultraviolet bands for carbonyl compounds, unsaturated carbonyl compounds, dienes, conjugated polyenes. Fieser-woodward rules for conjugated dienes and carbonyl compounds, ultraviolet spectra of aromatic and heterocyclic compounds. Steric effect in biphenyls.

ORD : α -Axial haloketone rule and octant rule – Application of these rules in the determination of absolute configuration of cyclohexanones, decalones and cholestanones.

Circular Dichroism : Principle – positive and negative cotton effects – Absolute configuration

UNIT -II: IR & Raman Spectroscopy 15 Hrs (1Credit)

IR Spectroscopy: Instrumentation and sample handling. Characteristic vibrational frequencies of alkanes, alkenes, alkynes, aromatic compounds, alcohols, ether, phenols and amines. Detailed study of vibrational frequencies of carbonyl compounds (Ketones, aldehydes, esters, amides, acids, anhydrides, lactones, lactams and conjugated carbonyl compounds). Effect of hydrogen bonding and solvent effect on vibrational frequencies, overtones, combination bands and Fermi resonance, FT-IR.

Raman Spectroscopy: Characteristic frequencies of functional groups – Applications to identification of organic molecules-comparison of IR and Raman spectroscopy.

UNIT –III: A. ^1H NMR spectroscopy 15 Hrs (1Credit)

Nuclear spin, nuclear resonance, Saturation shielding of magnetic nuclei, chemical shifts and its measurements, factors influencing chemical shift, deshielding. Spin-spin interactions, factors influencing coupling constants 'J' classification (ABX, AMX, ABC, A_2B_2 etc.), spin decoupling, basic ideas about instrument, FT-NMR, advantages of FT-NMR

Applications of ^1H NMR : Shielding mechanism, mechanism of measurement , chemical shift values and correlation for protons bonded to carbon (aliphatic, olefinic, aldehydic and aromatic) and other nuclei (alcohols, phenols, enols, carboxylic acids, amines, amides, chemical exchange, effect of deuteration, complex spin-spin interaction between two, three, four and five nuclei (First order spectra), virtual coupling, Stereochemistry, hindered rotation, Karplus curve variation of coupling constant with dihedral angle. Simplification of complex spectra, nuclear magnetic double resonance, contact shift reagents, nuclear Overhauser effect (NOE).

^{13}C NMR Spectroscopy: General considerations, chemical shift (aliphatic, olefinic, alkyne, aromatic, heteroaromatic and carbonyl carbon), coupling constants.

B) ELECTRON SPIN RESONANCE SPECTROSCOPY

Basic Principles, Theory of ESR, Comparison of NMR & ESR. Instrumentation, Factors affecting the 'g' value, determination of 'g' value. Isotropic and Anisotropic constants. Splitting hyper fine splitting coupling constants. Line width, Zero field splitting and Kramer degeneracy. Crystal field splitting, Crystal field effects. Applications:- Detection of free radicals; ESR spectra of (a) Methyl radical ($\text{CH}_3^\cdot$), (b) Benzene anion (C_6H_6^-)

UNIT -IV: Mass Spectrometry 15 Hrs(1Credit)

Introduction, principle, instrumentation, single and double focusing mass spectrophotometer, Ionisation Methods EI, CI, FD, FAB Factors affecting fragmentation ion analysis, ion abundance, Molecular-ion peak, Nitrogen rule, Base peak, Metastable ion, Isotopic abundance, McLafferty rearrangement. Mass spectral fragmentation patterns of various classes of organic compounds, Alkanes, cyclo alkanes, alkenes, aromatic hydrocarbons, Aliphatic, Aromatic, Aldehydes, Ketones, Alcohols, phenols, aliphatic Aromatic Nitro Compounds Nitrites, Nitrates, Nitriles.

REFERENCE BOOKS:

1. Electron Spin Resonance Elementary Theory and Practical Applications- John E. Wertz and James R. Bolton, Chapman and Hall, 1986.
 2. Spectroscopic Identification of organic compounds – Silverstein, Basseler and Morrill.
 3. Organic Spectroscopy- William Kemp.
 4. Fundamentals of Molecular Spectroscopy- C.N.Banwell and E.A. McCash 4th Edition, Tata Mc Graw Hill Publishing Co., Ltd. 1994.
 5. Physical Methods in Inorganic Chemistry – R.S.Drago, Saunders Publications.
-

6. Application of Mössbauer Spectroscopy – Green Mood.
 7. NMR, NQR, EPR and Mössbauer Spectroscopy in inorganic chemistry – R.V Parish, Ellis, Harwood.
 8. Instrumental Methods of Chemical Analysis- H.Kaur, PragathiPrakashan, 2003.
 9. Instrumental Methods of Analysis, 7th Edition – Willard, Merrit, Dean, Settle, CBS Publications, 1986.
 10. Molecular Structure and Spectroscopy – G. Aruldas, Prentice Hall of India Pvt.Ltd, New Delhi, 2001.
 11. Mössbauer Spectroscopy – N.N. Green Wood and T.C. Gibb, Chapman, and Hall, Landon 1971.
 12. Coordination Chemistry: Experimental Methods- K. Burger, London Butter Worths, 1973.
 13. Analytical spectroscopy – Kamlesh Bansal, Campus books, 2008.
 14. Structural Inorganic Chemistry Mössbauer Spectroscopy – Bhide.
 15. Principle of Mössbauer Spectroscopy – T.C. Gibb, Chapman, and Hall, Landon 1976.
-

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

CHOICE BASED CREDIT SYSTEM

FIRST YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

II Semester

(Effective from the academic year 2018 - 2019)

MODEL QUESTION PAPER

ORGANIC SPECTROSCOPY

PAPER-IV

Time: 3 hrs

Max.Marks:75

Section A

Answer any FIVE questions. Each question carries 5 Marks.

5 X 5 = 25M

1. Explain various electronic transitions involved in UV-Visible spectroscopy?
2. Explain ultraviolet spectra of aromatic and heterocyclic compounds?
3. Write short notes on a) overtones b) combination bands c) Fermi resonance?
4. Briefly explain comparison of IR and Raman spectroscopy?
5. Explain about Nuclear Overhauser effect (NOE)?
6. Write about Kramer degeneracy?
7. Write about a)Mc Lafferty rearrangement and Nitrogen rule?
8. Explain the mass spectral fragmentation of Alkenes?

PART-B

Answer ALL questions. Each question carries 12 1/2 Marks.

4 X 12 1/2 = 50M

9. Explain about Fieser-woodward rules for conjugated dienes.

(or)

Write the application of alpha axial haloketone rule and octant rule – in the determination of absolute configuration of cyclohexanones.

10. Explain detailed study of vibrational frequencies of carbonyl compounds(aldehydes & ketones) and esters.

(or)

Write the effect of hydrogen bonding and solvent effect on vibrational frequencies.

11. Explain about FT- NMR and advantages of FT-NMR.

(or)

Write about applications of of ESR spectroscopy and ESR spectra of methyl radical and Benzene anion.

12. Explain the the principle , instrumentation, single and double focusing mass spectrophotometer.

(or)

Explain Mass spectral fragmentation patterns of Aromatic hydrocarbons, aromatic aldehydes and ketones.

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M Sc., ORGANIC CHEMISTRY

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

SECOND SEMESTER INORGANIC CHEMISTRY LAB COURSE

Under CBCS

SECOND SEMESTER

Quantitative Inorganic analysis:

- A. 1. Estimation of zinc in presence of copper
- 2. Estimation of nickel by gravimetry using DMG

B. Preparations of Inorganic Complexes

- 1. Preparation of tetra ammine Cu (II) sulfate
 - 2. Preparation of Hexa ammine Ni (II) chloride.
 - 3. Preparation of Potassium tri Oxalato Chromate (III)
 - 4. Mercuric tetrathiocynato Cobaltite (II)
-

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

M Sc., ORGANIC CHEMISTRY

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

SECOND SEMESTER ORGANIC CHEMISTRY LAB COURSE

Under CBCS

SECOND SEMESTER LAB COURSE (Total Marks 100)

I) Separation of two component mixtures by chemical methods and their identification by chemical reactions. Separation by using solvent water, Ether, 5% aq. sodium bicarbonate, aq. 5% sodium hydroxide, and 5% aq. hydrochloric acid solutions. Identification of each compound by a systematic study of the physical constants M.P/B.P, extra elements (Nitrogen, Halogen), Solubility, Functional groups and preparation of crystalline derivatives

Note: As minimum of 5 mixtures should be separated and analyzed by these procedures

II) Multi step synthesis of Organic compounds

- i) Beckmann rearrangement: Benzophenone $\rightarrow$ Benzophenone oxime $\rightarrow$ Benzanilide
 - ii) Benzilic acid rearrangement : Benzoin $\rightarrow$ Benzil $\rightarrow$ Benzilic acid
 - iii) Acetylation: Aniline $\rightarrow$ Acetanilide $\rightarrow$ ParabromoAcetanilide
 - iv) Perkin Reactions : Preparation of Cinnamic acid
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KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

M Sc., ORGANIC CHEMISTRY

(EFFECTIVE FROM THE ACADEMIC YEAR 2018-2019)

SECOND SEMESTER PHYSICAL CHEMISTRY LAB COURSE

Under CBCS

SECOND SEMESTER (Total Marks 100)

Distribution

Distribution of acetic acid between n-butanol and water.

Distribution of iodine between CCl_4 and water.

Distribution of benzoic acid between Benzene and water & to prove dimerization of benzoic acid in benzene.

Chemical Kinetics

Acid catalysed hydrolysis of methyl acetate & to determine the relative strengths of acids.

Rast's Method

Determination of cryoscopic constant using known solute.

Determination of molecular weight of unknown nonvolatile solute.

Adsorption

Adsorption of acetic acid or Oxalic acid on the surface of charcoal and verification of Freindlich Adsorption isotherm

Critical Solution Temperature (CST)

Determination of CST of Phenol water System

Effect of Neutral Salt on CST



RAYALASEEMA UNIVERSITY

M.Sc. ORGANIC CHEMISTRY (OC) / NATURAL PRODUCTS (NP)

III Semester under CBCS

(Effective from the batch admitted during the academic year 2015-2016)

S.No	Paper Number	Title of Paper	No. Of Credits	Uni.Exam Duration(Hrs)	Total Marks	
					IA	SEE
1	CHEMOC/NP301: Paper I	Modern Organic Synthesis (Common to OC & NP)	4	3	30	70
2	CHEMOC/NP302: Paper II	Asymmetric Synthesis and Organic Photochemistry (Common to OC & NP)	4	3	30	70
3	CHEMOC/NP303: Paper III	Bio-Organic Chemistry(Common to OC & NP)	4	3	30	70
4	CHEMOC/NP304: Paper IV	Advanced Organic Spectroscopy(Common to OC & NP)	4	3	30	70

RAYALASEEMA UNIVERSITY

M.Sc. ORGANIC CHEMISTRY (OC) / NATURAL PRODUCTS (NP)

Syllabus for III Semester under CBCS

(Effective from the batch admitted during the academic year 2015-2016)

CHEM-OC/NP301: Paper I – Modern Organic Synthesis

UNIT –I : Organo Phosphorous and Organo Sulphur Compounds

UNIT –II : New synthetic reactions

UNIT –III : New techniques and concepts in organic synthesis:

UNIT –IV : Synthetic Strategies

Learning Objectives

- To develop familiarity with Arbusov reactions, Perkov reactions and Wittig's reactions
- To discuss the protecting groups with example
- To discuss named reactions
-

UNIT -I: OrganoPhosphorousand Organo Sulphur Compounds 15 Hrs (1 Credit)

Properties of divalent sulphur and trivalent phosphorous derivatives, nucleophilic reactivities, hard and soft acids and bases, compounds containing phosphorous-oxygen bonds, the phosphoroyl group, molecules with hydrogen bonded to phosphoroyl group, Arbusov reactions, Perkov reactions, compounds containing sulphur-oxygen bonds, sulfoxides and sulfones-Pummerer rearrangements, sulfoxides as oxidizing agents, phosphorous ylides, Wittig's reactions and mechanism, the Emmons-Wadsworth reaction, reactions of sulphur ylides.

UNIT -II: New synthetic reactions 15 Hrs (1 Credit)

(i)Protecting Groups: (a) Protection of alcohols by ether, silyl ether and ester formation

(b) Protection of 1,2-diols by acetal, ketal and carbonate formation (c) Protection of amines by acetylation, benzylation, benzyloxycarbonyl, t-butyloxycarbonyl, fmoc and triphenyl methyl groups, (d) Protection of carbonyls by acetal, ketal and thiol acetal (Umpolung) groups,

(e) Protection of carboxylic acids by ester and ortho ester (OBO) formation.

(ii)Baylis-Hillman reaction, RCM olefm metathesis, . Stork-enamine reaction and Umpolung use of dithio acetals

UNIT -III: New techniques and concepts in organic synthesis 15 Hrs(1 Credit)

Solid phase polypeptide synthesis, Solid phase oligonucleotide synthesis, Strategies in oligosaccharide synthesis, Kuhn-Roth synthesis, Combinatorial synthesis, Phase transfer catalysis, Tandem synthesis, Baldwin rules, Chiron approach in synthesis, Transformations using esterases

and lipases, Determination of absolute configuration (R/S) using Mosher's method and Felkin-Anh model. Use of protecting groups in organic synthesis: fmoc, t-BOC, TBDMS and THP.

UNIT -IV: Synthetic Strategies 15 Hrs(1 Credit)

Synthetic Strategies, Terminology: target, synthon, synthetic equivalent, functional group interconversion (FGI), functional group addition, functional group elimination. Criteria for selection of target. Linear and convergent synthesis. Retrosynthetic analysis and synthesis involving chemoselectivity, regioselectivity, reversal of polarity and cyclizations. Strategic bond: Criteria for disconnection of strategic bonds. Importance of the order of events in organic synthesis. One group and two group C-X disconnections. One group C-C disconnections. Alcohol and carbonyl compounds. Two group C-C disconnections; DielsAlder reaction, 1,3-difunctionalised compounds, Control in carbonyl condensation, 1,5- difunctionalised compounds, Michael addition and Robinson annulation, synthesis of (+) Disparlure by retro synthetic approach.

Course outcome:

- Applying synthetic strategies in the synthesis of organic compounds
- Explaining new techniques and concepts in organic synthesis
- Discussing the mechanism of organic reactions

Recommended Books:

1. Some modern methods of organic synthesis by W Carruthers
 2. Guidebook to organic synthesis, by R K Meckie, D M Smith & R A Atken
 3. Organic synthesis by O House
 4. Organic synthesis by Michael B Smith
 5. Reagents for organic synthesis, by Fieser&Fieser, Vol 1-11(1984)
 6. Organic synthesis by Robert E Ireland
 7. Organic Synthesis - The disconnection approach by S Warren
 8. Organic Synthesis by C Willis and M Willis
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9. Handbook of reagents for organic synthesis by Reich and Rigby, Vo I, IV
 10. Problems on organic synthesis by Stuart Warren
 11. Total synthesis of natural products: the Chiron approach by S.Hanessian
 12. Organic chemistry Claydon and others 2005
 13. Name Reactions by Jie Jack Li
 14. Reagents in Organic synthesis by B.P.Mundy and others.
 15. Tandem Organic Reactions by Tse-Lok Ho
 16. Advanced Organic Chemistry-Reactions and Mechanism, 2nd Ed. By Bernard Miller and Rajendra Prasad (Pages 397-414)
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Department of Chemistry: Semester III

RAYALASEEMA UNIVERSITY

M.Sc. ORGANIC CHEMISTRY (OC) / NATURAL PRODUCTS (NP)

Syllabus for III Semester

(Effective from the batch admitted during the academic year 2015-2016)

CHEM-OC/NP302: Paper II –Asymmetric Synthesis and Organic Photochemistry

UNIT –I : Asymmetric Synthesis-I

UNIT –II : Asymmetric Synthesis-II

UNIT –III : Organic Photochemistry - I

UNIT – IV : Organic Photochemistry -II

Learning Objectives

- To explain basics of asymmetric synthesis and organic photochemistry
- To discuss conformational analysis

UNIT –I: Asymmetric Synthesis-I: 15 Hrs (1 Credit)

Introduction and terminology: Topocity in molecules Homotopic, stereoheterotopic (enantiotopic and diastereotopic) groups and faces- symmetry, substitution and addition criteria. Prochirality nomenclature: Pro-R, Pro-S, Re and Si. Selectivity in synthesis: Stereospecific reactions

(substrate stereoselectivity). Conditions Stereoselective reactions (product stereoselectivity): Enantioselectivity and diastereoselectivity.: Symmetry and transition state criteria, kinetic and thermodynamic control. Methods for inducing enantio and

diastereoselectivity. Analytical methods: % Enantiomer excess, optical purity, % diastereomeric excess. Techniques for determination of enantioselectivity: Specific rotation, Chiral ^1H nmr, Chiral lanthanide shift reagents and Chiral HPLC.

UNIT -II: Asymmetric Synthesis-II: 15 Hrs (1 Credit)

i) Substrate controlled asymmetric synthesis: Nucleophilic additions to chiral carbonyl compounds. 1,2- asymmetric induction, Cram's rule and Felkin-Anh model.

ii) Chiral auxiliary controlled asymmetric synthesis: α -Alkylation of chiral enolates, azaenolates, 1, 4-Asymmetric induction and Prelog's rule. Use of chiral auxiliaries in Diels-Alder and Aldol reactions.

iii) Chiral reagent controlled asymmetric synthesis: Asymmetric reductions using BINAL-H. Asymmetric hydroboration using IPC_2BH and IPCBH_2 . Reductions with CBS reagent.

iv) Chiral catalyst controlled asymmetric synthesis: Sharpless, Jacobsen and Shi asymmetric epoxidations. Asymmetric hydrogenations using chiral Wilkinson biphosphine and Noyori catalysts, Enzyme mediated enantioselective synthesis:

UNIT-III :Organic Photochemistry – 15 Hrs (1 Credit)

Organic photochemistry : Molecular orbitals, carbonyl chromophore-triplet states, Jablonski diagram, inter-system crossing. Energy transfer. Energies properties and reaction of singlet and triplet states of and transitions.

Photochemical reactions : (a) Photoreduction, mechanism, influence of temperature, solvent, nature of hydrogen donors, structure of substrates on the course of photo reduction, (b) F.B. reaction mechanism, stereochemistry, side reaction due to variations of the triplet energy of the carbonyl component and the nature of the olefin component.

UNIT – IV: Organic Photochemistry – II15 Hrs (1 Credit)

Norrish cleavages, type I : Mechanism, acyclic cyclicdiones, influence of sensitizer, photo Fries rearrangement. Norrish type II cleavage : Mechanism and stereochemistry, type II reactions of esters : 1: 2 diketones, photo decarboxylation. Photochemistry of unsaturated ketones – Olefin photochemistry, cyclic olefins – Photochemistry – of conjugated dienes; electrocyclisations, influence of triplet energy of sensitizer, sensitized and unsensitized electrocyclisations. Electrocyclisations of dienes in crossed sense – Photochemistry of benzene derivatives – formation of derivatives of benzavalene, fluvene and Dewar benzene, cyclo addition of benzene to olefins and dienes – Decomposition of nitrites – Barton reaction. Di - π methane rearrangement.

Course outcome:

- Identify applications of asymmetric synthesis
- Basic idea of organic photochemistry

Recommended Books:

1. Stereochemistry of organic compounds — Principles & Applications by D Nasipuri
 2. The third dimension in organic chemistry, by Alan Bassendale
 3. Stereochemistry: Conformation & Mechanism by P S Kalsi
 4. Stereochemistry of Carbon compounds by Ernest L Eliel
 5. Stereoselectivity in organic synthesis by R S Ward.
 6. Asymmetric synthesis by Nogradi
 7. Asymmetric organic reactions by it) Morrison and HS Moschr
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8. Stereo differentiating reactions by Izumi
 9. Some modern methods of organic synthesis by W Carruthers
 10. Guidebook to organic synthesis, by R K Meckie, D M Smith & R A Atken
 11. Organic synthesis by Michael B Smith
 12. Molecular Reactions and Photo chemistry by Depuy and Chapman
 13. Photochemistry by C W S Wells
 14. Organic Photochemistry by Turro
 15. Molecular Photochemistry by Gilbert & Baggo
 16. Organic Photochemistry by D Coyle
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RAYALASEEMA UNIVERSITY

M.Sc. ORGANIC CHEMISTRY (OC) / NATURAL PRODUCTS (NP)

Syllabus for III Semester under CBCS

(Effective from the batch admitted during the academic year 2015-2016)

(CHEM-OC/NP303: Paper III – Bio-Organic Chemistry)

Learning Objectives

- To understand recombinant DNA and formation technology
- To explain the mechanism of enzymatic action

UNIT –I : Mechanism of Enzymic action

UNIT –II : Recombinant DNA and Fermentation technology

UNIT –III : Coenzymes

UNIT –IV : Amino acids and Proteins:

UNIT -I: Mechanism of Enzymic action 15 Hrs (1credit)

Transition state theory. Acid-Base catalysis. Co-valent catalysis— Binding modes of catalysis (i) Proximity effect (ii) Transition state stabilization (iii) Strain and Distortion. Examples of some typical enzyme mechanisms for (i) Triose phosphate isomerase (ii) α -chymotrypsin and serine protease (iii) Lysozyme (iv) Carboxy peptidase-A (v) Ribonuclease. Synthesis of α - amino acids and peptides. Transformations of lipases and esterases. C-C bond formation: asymmetric cyanohydrin formation and asymmetric aldol condensations using enzymes.

UNIT -II: Recombinant DNA and Fermentation technology 15 Hrs (1credit)

Introduction to genetic engineering. Recombinant DNA technology-restriction endonuclease, cloning, linkers, adaptors. Application of recombinant DNA technology in production of pharmaceuticals, diagnosis of diseases, insect control, improved biological detergents, gene therapy-examples. Principles of finger printing technology- Site directed mutagenesis. Fermentation technology: Introduction to fermentation. Industrial fermentation. Advantages and limitations of fermentation. Production of drugs and drug intermediates from fermentation examples. Chiral hydroxy acids, vitamins, amino acids, β -lactam antibiotics. Precursor fermentation and microbial oxidation and reductions

UNIT -III: Coenzymes 15 Hrs (1credit)

Introduction. Cofactors- cosubstrates- prosthetic groups. Classification-Vitamin derived coenzymes and metabolite coenzymes. Structure and biological functions of coenzyme A, thiamine pyrophosphate (TPP), pyridoxal phosphate (PLP), oxidized and reduced forms of i)

nicotinamide adenosine dinucleotide / their phosphates (NAD^+ , NADH , NADP^+ , NADPH) ii) Flavin adenine dinucleotide FAD , FADH_2 and iii) Flavin mononucleotide (FMN , FMNH_2), lipoic acid, biotin, tetrahydrofolate. Adenosine triphosphate (ATP) and adenosine diphosphate (ADP), S-adenosyl methionine (SAM) and uridine di phospho sugars (UDP-sugars) Mechanism of reactions catalysed by the above coenzymes.

UNIT-IV:Amino acids and Proteins: (1credit)

Amino acids: Introduction - Classification of amino acids. General methods of preparations – Gabriel's phthalimide synthesis, Strecker's synthesis, Malonic ester synthesis Erlenmeyer azalactone synthesis.

Analysis of amino acids from protein hydrolysates. General properties and reactions of amino acids –isoelectric point.

PROTEINS: General nature of proteins – annealing, Biuret reaction, Ninhydrin test. Classification of proteins. Merrified solid phase peptide synthesis. Primary, secondary, tertiary and quaternary structure of proteins.

Course outcome:

- Applying mechanism of reactions catalyzed by coenzymes
- Explaining the importance of amino acids

Recommended Books

1. Concepts in biotechnology by D. Balasubramanian & others
 2. Principles of biochemistry by Horton & others.
 3. Bioorganic chemistry - A chemical approach to enzyme action by Herman Dugas and Christopher Penney.
 4. Chirtechnology by R. Sheldon
 5. Organic synthesis in water. By Paul A. Grieco Blackie.
 6. Burger's medicinal chemistry and drug discovery. by Manfred E. Wolf
 7. Introduction to Medicinal chemistry. by Graham Patrick.
 8. Introduction to drug design. by R.B. Silverman
 9. Comprehensive medicinal chemistry. Vol 1-5 by Hanzsch.
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RAYALASEEMA UNIVERSITY

M.Sc. ORGANIC CHEMISTRY (OC) / NATURAL PRODUCTS (NP)

Syllabus for III Semester

(Effective from the batch admitted during the academic year 2015-2016)

CHEM-OC/NP :304: Paper IV – Advanced Organic Spectroscopy

Learning Objectives

- To learn about the various NMR spectroscopic techniques
- To apply the NMR spectroscopy knowledge for the structural elucidation of organic molecules
- To identify the spectral information of Natural Products Chemistry and Conformational analysis

UNIT –I : ^{13}C NMR Spectroscopy 15 Hrs (1credit)

CW and PFT techniques. Types of ^{13}C nmr spectra: undecoupled, proton- decoupled, single frequency off-resonance decoupled (SFORD) and selectively decoupled spectra, signal enhancement by Nuclear OVER HAUSER effect. ^{13}C chemical shifts, factors affecting the chemical shifts, chemical shifts of organic compounds. Calculation of chemical shifts of alkanes, alkenes and alkynes. Homonuclear (^{13}C , ^{13}C J) and heteronuclear (^{13}C , ^1H J and ^{13}C - ^2H J) coupling. Applications of ^{13}C -NMR spectroscopy: Structure determination, stereochemistry, reaction mechanisms and dynamic processes in organic molecules.

UNIT -II: Multipulse techniques in NMR Spectroscopy 15 Hrs

Spin echo experiment, ^{13}C NMR spectral editing technique, Polarization Transfer and signal enhancement, principle and applications of SPT, APT, INEPT and DEPT methods, 1D-INADEQUATE, Application to Geraniol molecule.

UNIT -III: 2D NMR techniques 15 Hrs (1credit)

2D-NMR techniques:

Principles of 2-D NMR, Classification of 2D-experiments. 2D-J-resolved spectroscopy. Homonuclear and Heteronuclear 2D-J-resolved spectroscopy. Correlation spectroscopy (COSY) Homo COSY (^1H - ^1H COSY) , TOCSY (Total Correlation Spectroscopy), Hetero COSY (^1H , ^{13}C COSY, HMQC), long range ^1H , ^{13}C COSY (HMBC), NOESY and 2D-INADEQUATE experiments and their applications.

UNIT -IV:Spectral Identification of Natural Products Chemistry And Conformational

Analysis(1credit)

Spectral identification of natural products : Use of spectroscopic methods UV, IR, ^1H and ^{13}C -NMR and Mass spectra in the structure elucidation of natural products. Illustration with suitable compounds like chrysin (flavones). 2,3-dihydroflavone (flavanone), diadzein (isoflavone). Umbelliferone (coumarin), Camphor (Terpenoid) and Papaverine (alkaloid). Cholesterol (steroid).

Course outcome:

- Understanding the concept of NMR Spectroscopy
- Application the of NMR Spectroscopy to investigate the spectral identification of natural products

References

1. Spectroscopic identification of organic compounds by RM Silverstein, G C Bassler and T B Morrill
 2. Organic Spectroscopy by William Kemp
 3. Spectroscopic methods in Organic chemistry by DH Williams and I Fleming
 4. Modern NMR techniques for chemistry research by Andrew B Derome
 5. NMR in chemistry - A multinuclear introduction by William Kemp
 6. Spectroscopic identification of organic compounds by P S Kalsi
 7. Introduction to organic spectroscopy by Pavia
 8. Carbon-13 NMR for organic chemists by GC Levy and O L Nelson
 9. Spectroscopy of organic compounds, RM Silverstein and others, 5th Ed, (John Wiley)
 10. NMR Spectroscopy An Introduction to Principles, Applications and experimental methods, Joseph B. Lambert and Eugene P. Mazzola (Pearson Education Inc. Prentice – Hall).
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11. A Complete Introduction to Modern NMR Spectroscopy, Roger S. Macomber, A (John Wiley & Sons, Inc.).
 12. Modern Spectroscopy, M. Hollas (John Wiley)
 13. Introduction to molecular Spectroscopy, G. M. Barrow (McGraw Hill)
 14. Basic principles of Spectroscopy, R. Chang (McGraw Hill).
 15. NMR Spectroscopy by Gunther.
 16. NMR Spectroscopy by Attar-ur-Rahman
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RAYALASEEMA UNIVERSITY

M.Sc. ORGANIC CHEMISTRY (OC) / NATURAL PRODUCTS (NP)

(Effective from the batch admitted during the academic year 2015-2016)

THIRD SEMESTER ORGANIC CHEMISTRY LAB COURSE

Under CBCS

THIRD SEMESTER LAB COURSE-PRACTICAL-III- (Total Marks 100)

Organic Quantitative Estimations

Estimations:

- i) Estimation of phenol.
- ii) Estimation of Glucose.
- iii) Estimation of Analine.
- iv) Estimation of saponification value of an oil or fat or an ester.
- v) Estimation of acid value of a fat or an oil.

THIRD SEMESTER LAB COURSE-PRACTICAL-IV- (Total Marks 100)

Spectral Identification of Organic Compounds

Spectral Identification of Un-Known Organic Compounds by Interpretation of UV, IR, ^1H NMR, ^{13}C NMR and Mass Spectral Data

Note: A minimum of 30 representative examples should be studied **Recommended Books**

1. A text-book of practical organic chemistry by A.I. Vogel, Vol. I and II.
 2. Laboratory Manual of Organic Chemistry by B. B. Dey, M. V. Sitaraman Revised by T. R. Govindachari.
 3. Unitized experiments in organic chemistry by R.Q. Brewster and others.
 4. Practical Organic Chemistry by Mann and Saunders.
 5. A textbook of practical organic chemistry by A.I. Vogel, Vol. I and II.
 6. Laboratory Manual of Organic Chemistry by B. B. Dey, M. V. Sitaraman Revised by T. R. Govindachari.
 7. Unitized experiments in organic chemistry by R.Q. Brewster and others.
 8. Practical Organic Chemistry by Mann and Saunders
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Department of Chemistry: VI Semester Syllabus

RAYALASEEMA UNIVERSITY

M.Sc. ORGANIC CHEMISTRY (OC) / NATURAL PRODUCTS (NP)

IV Semester under CBCS

(Effective from the batch admitted in the academic year 2015-2016)

S.No	Paper Number	Title of Paper	No. Of Credits	Uni.Exam Duration(Hrs)	Total Marks	
					IAE	SEE
1.	CHEM-OC: 401:Paper-I	Terpenoids, Alkaloids Steroids, and Flavonoids (For OC only)	4	3	30	70
	CHEM-NP: 401:Paper-I	Advanced Natural Products Chemistry (for NP Only)	4	3	30	70
2.	EL-CHEM : OC/NP: 402: Paper II (Common for both OC&NP)	Drug& Medicinal Chemistry And Green Chemistry	4	3	30	70
3.	PROJECT	To be Selected	10	Dissertation	150	
				Viva-Voce	50	
				Total Marks for	200	

				Project Work	
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IA : Internal Assessment = IAE (25) + SS (5)

SEE : Semester End Examination

IAE : Internal Assessment Examination

SS : Student Seminar

RAYALASEEMA UNIVERSITY

M.Sc.ORGANIC CHEMISTRY

IV SEMISTER SYLLABUS under CBCS

(Effective from the Batch Admitted In the Academic Year 2015-2016)CHEM: OC: 401:

PAPER-I– TERPENOIDS, STEROIDS, ALKALOIDS AND FLAVONOIDS

UNIT- I: Terpenoids

UNIT - II: Alkaloids

UNIT -III: Steroids

UNIT-IV:Flavonoids&Isoflavonoids

Learning Objectives

- To understand the basic knowledge about naturally occurring compounds
- To develop skill in the synthesis of important compounds

UNIT:I :Terpenoids: 15 hours (1 Credit)

Occurrence, Isolation general methods of structural determination isoprene rule special isoprene rule, structure determination and stereochemistry and synthesis of the following molecules :
1.Santonin 2. Farnesol3.Zingiberene 4. Cadinene

UNIT II: Alkaloids: 15 hours (1 Credit)

Occurrence, Isolation general methods of structure elucidation and physiological action , degradation , classification based on nitrogen heterocyclic ring , structure, role of alkaloids in plants stereochemistry, synthesis and bio synthesis are the following :

1. Nicotine 2. Morphine 3. Strychnine and 4. Reserpine

UNIT III : Steroids:15 hours (1 Credit)

Occurrence, Isolation general methods of structure elucidation and synthesis of cholesterol (total synthesis not expected) Androsterone, Testosterone, Estrone, Progesterone.

UNIT:IV: Flavonoids And Isoflavonoids:15 Hours (1 Credit)

Occurrence nomenclature and general methods of structure determination, isolation and synthesis of 1. Apigenin, 2. Luteolin, 3. Kaempferol 4. Quercetin 5. Buten, 6. Daidzein. Biosynthesis of Flavonoids and Isoflavonoids: Acetate pathway and shikimic acid pathway.

Course outcome:

- Explain the structure determination and stereochemistry of important compounds.
- Understand the difference between acetate pathway and shikimic pathway

Reference:

1. Comprehensive Organic Chemistry by D.R. Barton and W.D.Ollis.
 2. Standard methods in plant analysis by Reach and Tracey.
 3. Natural Products by Kalsi.
 4. Text book of Organic Chemistry VOL II by I.L.Finar.
 5. An Introduction to the Chemistry of terpenoids and Steroids by William Templeton.
 6. Systematic identification of flavonoid Compounds by Markhan.&Mabry
 7. Steroids by Fieser and Fieser.
 8. Alkaloids by Manske.
 9. Alkaloids by Bently.
 10. The Chemistry of terpenes by A.R.Pinder.
 11. The Terpenes by Simenson.
 12. Terpenoids by Mayo
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RAYALASEEMA UNIVERSITY
M Sc., NATURAL PRODUCTS
IV SEMESTER SYLLABUS under CBCS
(Effective from the Batch Admitted in the Academic Year 2015-2016)
CHEM-NP: 401: PAPER-I Advanced Natural Products Chemistry

UNIT:I	:	Essential Oils & Oils And Fats
UNIT: II	:	Flavonoids And Isoflavonoids
UNIT III	:	Steroids
UNIT: IV	:	Wood Chemistry

Learning Objectives

- To develop interest to know about the naturally occurring essential oils.
- To explain the structure elucidation of compounds
-

UNIT: I: Essential Oils & Oils and Fats 15 hours (1 Credit)

(a) **Essential Oils:** Occurrence, Isolation and chemical constituents and uses of essential oils 1. Sandalwood oil 2. Lemon grass oil 3. Camphor oil 4. Turpentine oil

(b) Oils and Fats:

Introduction: Distinction between oils and fats. Classification of oils and fats (edible and inedible, non-drying, semi-drying, oil). Analysis of oils and fats; Saponification value, Acid value, iodine value.

UNIT:II: Flavonoids And Isoflavonoids:15 Hours(1 Credit)

Occurrence nomenclature and general methods of structure determination, isolation and synthesis of 1. Apigenin, 2. Luteolin, 3. Kaempferol 4. Quercetin 5. Buten, 6.Daidzein Biosynthesis of Flavonoids and Isoflavonoids: Acetate pathway and shikimic acid pathway

UNIT III :Steroids: 15 hours(1 Credit)

Occurrence, Isolation general methods of structure elucidation and synthesis of cholesterol (total synthesis not expected) Androsterone, Testosterone , Estrone , Progesterone.

UNIT: IV: Wood Chemistry: 15 hours (1 Credit)

Wood Structure and Chemical composition. Pulp and paper. Chemical pulping (kraft process) Biotechnology –Biopulping and Biobleaching. paper making process. Elements of wood preservation. Additional chemicals from wood. Thermal decomposition of wood. Wood Distillation – pyrolytic acid (production, constituents and industrial uses).

Course outcome:

- Understanding basics of wood chemistry
- Identifying the application of essential oils and fats

Reference Books:

1. Comprehensive Organic Chemistry by D.R. Barton and W.D.Ollis.
 2. Standard methods in plant analysis by Rea and Tracey.
 3. Natural Products by Kalsi.
 4. Text book of Organic Chemistry VOL II by I.L.Finlar.
 5. An Introduction to the Chemistry of terpenoids and Steroids by William Templeton.
 6. Systematic identification of flavonoid Compounds by Markhan.&Mabry
 7. Steroids by Fieser and Fieser.
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RAYALASEEMA UNIVERSITY
M.Sc.ORGANIC CHEMISTRY (OC)/ NATURAL PRODUCTS (NP)

Syllabus for IV Semester under CBCS

(Effective from the batch admitted in the academic year 2015-2016)

ELECTIVE PAPER

EL-CHEM-OC/NP: 402: Paper II – Drug & Medicinal Chemistry and Green Chemistry

UNIT -I: Principles of Drug design and drug discovery

UNIT -II: Medicinal Chemistry

UNIT -III: Green Chemistry – I

UNIT -IV: Green Chemistry – II

Learning Objectives

- To discuss the principles of drug design and drug discovery
- To introduce green chemistry and microwave assisted reactions

UNIT-I: Principles of Drug design and drug discovery 15 Hrs (1 Credit)

Introduction to drug discovery. Folklore drugs. Natural products as lead structures in drug discovery. Structure pruning technique in lead modification e.g. morphine. Serendipitous

discovery of leads e.g. Penicillin and Librium. Drug targets and receptor theory. Nature of drug-receptor interactions. Pharmacodynamics and pharmacokinetics (ADME) of drugs. Agonists, antagonists and enzyme inhibitors. Discovery of lead structure from natural hormones and neurotransmitters. Existing drugs as leads (me too drugs). Principles of design of agonists (e.g. Salbutamol), antagonists e.g. cimetidine) and enzyme inhibitors (e.g. captopril). Principles of prodrug design. Molecular graphics based lead discovery. Introduction to drug patents and Clinical trials.

UNIT-II: Medicinal Chemistry 15 Hrs (1 Credit)

Introduction, sources of natural leads and their structural modification to semi synthetic/synthetic drugs. 1) Drugs acting on nervous system a) CNS: i) morphine alkaloids. Structural pruning technique – eg. Morphine. b) PNS: i) Cocaine, benzocaine, 2) Neuromuscular blocking agents: curare alkaloids, tubocurarine, 3) Anticancer drugs: i) Catharanthus alkaloids, vinblastine, ii) Taxol. 4) Antibiotics: i) β -Lactam antibiotics – penicillin, cephalosporins and their semi synthetic derivatives (amoxicillin, methicillin, cephalexin) 5) Cardiovascular drugs : i) lovastatin 6)

Antiasthma drugs : i) Ephedrine, isoprenaline and salbutamol. 7) Antiparasitic drugs: i) Artemisinin, artemether and artether. ii) Quinine, pamaquine,.

UNIT -III: Green Chemistry - I

Introduction. Principles, atom economy and scope. Introduction to alternative approaches. Solvent free reactions-principle, scope, utility of solvent free conditions, controlling solvent free reactions. Microwave activation-benefits, limitations, equipment, microwave effects-according to reaction medium and according to reaction mechanism. Solvent free microwave assisted organic synthesis: Introduction, solvent free techniques- Reactions on solid mineral supports, solid-liquid phase-transfer catalysts-Reactions without solvent support or catalyst.

UNIT -IV:Green Chemistry - II

Examples of reactions on solid supports, PTC, reactions without support or catalyst— deacetylation, deprotection, saponification of esters, alkylation of reactive methylene compounds, synthesis of nitriles from aldehydes, reductions. Microwave assisted reactions in water — Hoffmann elimination, hydrolysis, oxidation, saponification reactions. Microwave assisted reactions in organic solvents — Esterification reactions, Fries rearrangement, OrthoesterClaisen rearrangement, Diels- Alder reaction, decarboxylation. Ultrasound assisted reactions: Introduction, substitution addition, oxidation, reduction reactions.

Course outcome:

- Explaining the discovery of leads and molecular graphics based lead discovery
- Identifying the sources of natural leads and structural pruning technique
- Applying the green synthesis to organic reactions

References

1. Drug design By E.J. Arienens
 2. Jenkin's quantitative pharmaceutical chemistry By Knevel and Dryden
 3. Recent advances in Bioinformatics by I. A. Khan and A Khanum
 4. Molecular modelling By Hans Dieter Holtje and Gerd Folkers
 5. Molecular modelling By Leach
 6. Bio Informatics by Rastogi
 7. The Science and practice of Pharmacy – Vol I and Vol II by Remington
 8. Burger's medicinal chemistry and drug discovery. By Manfred E. Wolf.
 9. Introduction to Medicinal chemistry. By Patrick.
 10. Introduction to drug design. By Silverman
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11. Comprehensive medicinal chemistry. Vol 1-5 By Hanzsch.
12. Principles of medicinal chemistry. By William Foye
13. Biochemical approach to medicinal chemistry. By Thomas Nogrady.
14. New trends in green Chemistry by V.K.Ahluwalia



ENGLISH



K.V.R. GOVERNMENT COLLEGE FOR WOMEN, KURNOOL

AUTONOMOUS



M.A. ENGLISH

(2017-2019)

SYLLABUS, MODEL QUESTION PAPERS, EXAMINERS
& PAPER SETTERS

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Established in 1958 under G.O.Ms.No.197 Edn. Dt.27-01-1958

Accredited at "A" Grade by NAAC,



KURNOOL

BOARD OF STUDIES MEETING

DEPARTMENT OF ENGLISH

MEMBERS OF BOARD OF STUDIES

01	Dr. M.Farida Begum, Asst. Prof in English K.V.R.Govt. College(W), Kurnool (A)	Chairperson	Signature
02	Prof. VVN.Rajendra Prasad R.U..University, Kurnool.	University Nominee	
03	Dr.S.Mahaboob Basha, Associate Prof. Osmania College, Kurnool (A)	Subject Expert	
04	Dr.A.Madhavilatha, Lecturer in English G.D.C. Banaganapalli	Subject Expert	
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08	Kum.M.Akhila Devi, Lecturer in English Vasavi Mahila Kalasala, Kurnool.	Alumna	
09	Kum.S.Malan Bi, II Year M.A.English K.V.R.Govt.College(W),Kurnool.(A)	Student Representative	
10	Kum. S. Nazia, I Year M.A. English K.V.R.Govt. College(W), Kurnool (A)	Student Representative	

KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS) KURNOOL



MA in English - Restructured Course

(Effective from the 2017-2019 Batch)

First Semester

1. Poetry-I (100 marks)
2. Drama-I (100 marks)
3. Novel-I (100 marks)
4. Indian English Literature-I (100 marks)
5. Phonetics and Grammar (100 marks)

Second Semester

1. Poetry-II (100 marks)
 2. Drama-II (100 marks)
 3. Novel-II (100 marks)
 4. Indian English Literature-II (100 marks)
-

5. American Literature-I (100 marks)

Third Semester

1. Commonwealth Literature-I (100 marks)
2. American Literature-II (100 marks)
3. Indian Literature in English Translation (100 marks)
4. Literary Criticism and Theory-I (100 marks)
5. Introduction to Linguistics (100 marks)

Fourth Semester

1. Commonwealth Literature-II (100 marks)
2. Literary Criticism and Theory-II (100 marks)
3. History of the English Language and ELT (100 marks)

and

PROJECT (200 marks)

[18 papers and one project: 2000 marks]



KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS) KURNOOL

MA in English - Restructured Course

(Effective from the 2017-2019 Batch)

SEMESTER-I

PAPER 1.1: POETRY-I

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|---------------|-----------------------------------|
| 1. Homer | The Iliad, Canto I |
| 2. John Donne | A Valediction Forbidding Mourning |

UNIT-II

- | | |
|-------------------|------------------------|
| 3. John Milton | Paradise Lost: Book-IX |
| 4. Alexander Pope | The Rape of the Lock |



UNIT-III

5. William Wordsworth Tintern Abbey

The Tables Turned

6. S.T. Coleridge The Rime of the Ancient Mariner

UNIT-IV

7. P.B. Shelley To a Skylark

Ode to the West Wind

8. John Keats Ode to a Nightingale

Ode on a Grecian Urn



PAPER 1.2: DRAMA-I

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

1. Sophocles Oedipus Rex

UNIT-II

2. Christopher Marlowe Dr. Faustus

UNIT-III

3. William Shakespeare Hamlet
4. William Shakespeare Twelfth Night

UNIT-IV

5. William Congreve The Way of the World
6. Oscar Wilde The Importance of Being Earnest



PAPER 1.3: NOVEL-I

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|-------------------|----------------|
| 1. Henry Fielding | Joseph Andrews |
|-------------------|----------------|

UNIT-II

- | | |
|--------------------|---------------------|
| 2. Jane Austen | Pride and Prejudice |
| 3. Charles Dickens | Hard Times |

UNIT-III

- | | |
|-----------------|-------------------|
| 4. George Eliot | Mill on the Floss |
|-----------------|-------------------|

UNIT-IV

- | | |
|-----------------|-----------------------------|
| 5. Thomas Hardy | Tess of the D'Urbervilles |
| 6. Albert Camus | The Outsider (The Stranger) |



PAPER 1.4: INDIAN ENGLISH LITERATURE-I

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

1.ToruDutt

Sita

2.HarindranathChatopadhyaya The Earthen Goblet

UNIT-II

3. Nissim Ezekiel

Enterprise

Poet, Lover, Birdwatcher

Goodbye Party for Miss Pushpa T.S.

4. A.K. Ramanujan

A River

Small Scale Reflections on a Great House

Obituary

5. Kamala Das

An Introduction

My Grandmother's House

UNIT-III

6. GirishKarnad

Hayavadana

UNIT-IV

7. Rabindranath Tagore ThePost office

PAPER 1.5: PHONETICS AND GRAMMAR

UNIT-I

1. The Speech Mechanism

2. English Vowels

3. English Consonants

UNIT-II

4. Word Accent

5. Accent and Rhythm in Connected Speech

5. Phonological Environment: Assimilation, Elision, Juncture

6. Intonation

UNIT-III

The following topics from *A Student's Grammar of the English Language* by

Sidney Greenbaum and Randolph Quirk

Varieties of English (Chapter1)

Some Major Concepts and Categories (Chapter2)

Verbs and Auxiliaries (Chapter3)

UNIT-IV

The following topics from *A Student's Grammar of the English Language* by

Sidney Greenbaum and Randolph Quirk

The Semantics of the Verb Phrase (Chapter4)

Nouns and Determiners (Chapter5)

The Simple Sentence (Chapter10)

Reference

1. J. Sethi and P.V. Dhamija *A Course in Phonetics and Spoken English*
2. Daniel Jones *English Pronouncing Dictionary* (18th Edition)
Ed. Peter Roach, Jane Setter, and John Esling



KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS) KURNOOL

MA in English - Restructured Course

(Effective from the 2017-2019 Batch)

SEMESTER-II

PAPER 2.1: POETRY-II

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|--------------------|-----------------|
| 1. Alfred Tennyson | Ulysses |
| 2. Robert Browning | My Last Duchess |

UNIT-II

- | | |
|-------------------|-------------|
| 3. Matthew Arnold | Dover Beach |
|-------------------|-------------|



4. G.M. Hopkins The Windhover

Pied Beauty

UNIT-III

5. W.B. Yeats The Second Coming

Sailing to Byzantium

6. T.S. Eliot The Waste Land

UNIT-IV

7. W.H. Auden The Unknown Citizen

8. Philip Larkin Church-Going

9. Ted Hughes The Thought-Fox

PAPER 2.2: DRAMA-II

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

1. Henrik Ibsen A Doll's House

2. J.M.Synge Riders to the Sea

UNIT-II

3. G.B. Shaw St. Joan



UNIT-III

- | | |
|-------------------|--------------------|
| 4. Samuel Beckett | Waiting for Godot |
| 5. John Osborne | Look Back in Anger |

UNIT-IV

- | | |
|------------------|--------------------|
| 7. Harold Pinter | The Birthday Party |
|------------------|--------------------|

PAPER 2.3: NOVEL-II

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|------------------|-----------------|
| 1. D.H. Lawrence | Sons and Lovers |
|------------------|-----------------|

UNIT-II

- | | |
|------------------|---|
| 2. James Joyce | A Portrait of the Artist as a Young Man |
| 3. Hermann Hesse | Siddhartha |

UNIT-III

- | | |
|-------------------|-------------------------|
| 4. Virginia Woolf | Mrs. Dalloway |
| 5. Graham Greene | The Power and the Glory |

UNIT-IV

- | | |
|--------------------|-------------------|
| 6. William Golding | Lord of the Flies |
|--------------------|-------------------|

PAPER 2.4: INDIAN ENGLISH LITERATURE-II

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|-------------------|--------------------------|
| 1. Mulk Raj Anand | Untouchable |
| 2. Raja Rao | The Serpent and the Rope |

UNIT-II

- | | |
|-------------------|---------------------|
| 3. Salman Rushdie | Midnight's Children |
| 4. R.K. Narayan | A Tiger for Malgudi |



UNIT-III

- | | |
|----------------------|-------------------------|
| 5. Bharati Mukherjee | Jasmine |
| 6. Arundhati Roy | The God of Small Things |

UNIT-IV

- | | |
|-----------------|------------------|
| 7. Amitav Ghosh | The Shadow Lines |
|-----------------|------------------|

PAPER 2.5: AMERICAN LITERATURE-I

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|------------------------|----------------------|
| 1. Edgar Allan Poe | The Raven |
| | The Telltale Heart |
| 2. Ralph Waldo Emerson | The American Scholar |

UNIT-II

3. Mark Twain The Adventures of Huckleberry Finn

UNIT- III

5. Walt Whitman When Lilacs Last in the Dooryard Bloom'd

6. Emily Dickinson I had been hungry all the years
Because I could not stop for Death

UNIT-IV

7. Ernest Hemingway The Old Man and the Sea

8. Richard Wright Native Son

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SEMESTER-III

PAPER 3.1: COMMONWEALTH LITERATURE-I

(Excluding Indian English Literature)

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|------------------|---------------------------|
| 1. A.D. Hope | Australia |
| | The Death of the Bird |
| 2. Judith Wright | Fire at the Murdering Hut |
| | Bullocky |

UNIT-II

- | | |
|------------------|------------------------|
| 3. Chinua Achebe | Things Fall Apart |
| 4. V.S. Naipaul | A House for Mr. Biswas |

UNIT-III

- | | |
|--------------------|-----------------|
| 5. NgugiWaThiong'o | Weep Not, Child |
| 6. Wole Soyinka | Kongi's Harvest |

UNIT IV

- | | |
|--------------------|--------------------------|
| 7. Nadine Gordimer | July's People |
| 8. Alice Munro | Lives of Girls and Women |



PAPER 3.2: AMERICAN LITERATURE-II

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|-----------------|---|
| 1. Robert Frost | After Apple-picking |
| | Birches |
| | Home Burial |
| 2. Ogden Nash | This is just going to hurt a little bit |

UNIT-II

- | | |
|------------------|----------------|
| 3. Saul Bellow | Seize the Day |
| 4. Toni Morrison | The Bluest Eye |

UNIT-III

- | | |
|-------------------|---------------------|
| 5. Eugene O'Neill | The Hairy Ape |
| 6. Arthur Miller | Death of a Salesman |

UNIT-IV

- | | |
|-----------------------|--------------------------|
| 7. Tennessee Williams | A Streetcar Named Desire |
|-----------------------|--------------------------|

PAPER 3.3: INDIAN LITERATURE IN ENGLISH TRANSLATION

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|------------------------|-----------------------|
| 1. SubramaniaBharathi | Phoenix |
| | Deception?Truth? |
| | Sound the Tocsin |
| 2. Sri Sri | To Poesy : A Rhapsody |
| (Trans. by the author) | The March of History |
| | Forward March |
| 3. BalagangadharaTilak | Ambrosia Dripped |

UNIT-II

- | | |
|--------------------------------------|---|
| 4. ThakazhiSivasankaraPillaiChemmeen | |
| 5. U.R. Ananthamurthy | Samskara |
| 6. Volga | A Political Story (from <i>The Woman Unbound</i> ;
translated from the Telugu by Alladi Uma and M. Sridhar) |

UNIT-III

- | | |
|---------------------|-------------|
| 7. GurujadaAppaRao | Kanyasulkam |
| 8.. Vijay Tendulkar | Kamala |

UNIT-IV

- | | |
|--------------------|----------|
| 9. Mahasweta Devi | Draupadi |
| 10. Mahesh Dattani | Tara |
-

PAPER 3.4: LITERARY CRITICISM AND THEORY-I

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts



UNIT-I

- | | |
|--------------|----------------|
| 1. Aristotle | Poetics |
| 2. Longinus | On the Sublime |

UNIT-II

- | | |
|-------------------|-----------------------------------|
| 3. Samuel Johnson | Preface to Shakespeare |
| 4: S.T. Coleridge | Biographia Literaria: Chapter-XIV |

UNIT- III

- | | |
|------------------|-------------------------------------|
| 5. Mathew Arnold | The Study of Poetry |
| 6. T.S. Eliot | Tradition and the Individual Talent |

UNIT-IV:

- | | |
|-------------------|-----------------------------------|
| 7. I.A. Richards | The Four Kinds of Meaning |
| 8. Cleanth Brooks | Irony as a Principle of Structure |

PAPER 3.5: INTRODUCTION TO LINGUISTICS

UNIT-I

1. Definition and Characteristics of Language
2. Definition and Scope of Linguistics
3. Modern Linguistics Vs Traditional Approaches to Language Study

UNIT-II

4. Phonology: Phone, Phoneme, Allophone
5. Morphology: Morpheme; Morph, Morpheme, Allomorph; Simple, Complex, and Compound Words

UNIT-III

6. Phrase Structure Rules
7. Transformational Rules: Negative, Interrogative, Imperative, Passive (Simple Sentences only)

UNIT-IV

8. Semantics: Definition; Denotation and Connotation; Collocation; Idioms; Hyponymy; Synonymy; Antonymy; Relational Opposites; Polysemy and Homonymy; Components
9. Pragmatics: Definition; Context; Deixis; Speech Acts and Speech Act Theories (Austin and Searle); The Cooperative Principle and Grice's Conversational Maxims; Implicature

Reference

1. Jean Aitchison *General Linguistics*
 2. Adrian Akmajian, et al. *Linguistics: An Introduction to Language and Communication*
 3. John Lyons *Language and Linguistics: An Introduction*
 4. George Yule *The Study of Language*
-

5. S.K. Verma and N. Krishnaswamy

Modern Linguistics: An Introduction

6. F.R. Palmer

Semantics

7. Mark Lester

Introductory Transformational Grammar of English



KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS) KURNOOL

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SEMESTER-IV

PAPER 4.1: COMMONWEALTH LITERATURE-II

(Excluding Indian English Literature)

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|------------------|------------------------|
| 1. P.K. Page | After Rain |
| | Autumn |
| 2. Derek Walcott | A Far Cry from Africa |
| | Ruins of a Great House |

UNIT-II

- | | |
|----------------------|------------------|
| 3. Margaret Atwood | The Edible Woman |
| 4. Margaret Laurence | The Diviners |

UNIT-III

- | | |
|------------------------|---|
| 5. Katherine Mansfield | Bliss and Other Stories (Penguin Modern Classics) |
| 6. Frantz Fanon | The Wretched of the Earth (First Chapter) |



UNIT-IV

7. Yasmine Gooneratne A Change of Skies

8. Bapsi Sidhwa Ice Candy Man



PAPER 4.2: LITERARY CRITICISM AND THEORY-II

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|--------------------|------------------------|
| 1. Edmund Wilson | Marxism and Literature |
| 2. Lionel Trilling | Freud and Literature |

UNIT-II

- | | |
|--------------------|------------------------------|
| 3. Northrop Frye | The Archetypes of Literature |
| 4. Jonathan Culler | Structuralism and Literature |

UNIT - III

- | | |
|---------------------|----------------------------|
| 5. Derrida | Sign, Structure and Play |
| 6. Elaine Showalter | Towards a Feminist Poetics |

UNIT-IV

- | | |
|-------------------|------------------------------|
| 7. Bharata | Rasa (NatyaSastra) |
| 8. Anandavardhana | Dhvanyaloka: The First Flash |
| 9. Kuntaka | Vakrokti(vakrotijivita) |



PAPER 4.3: HISTORY OF THE ENGLISH LANGUAGE AND ELT

UNIT-I

1. Foreign Influences: Latin, French, Scandinavian, Indian
2. Word Formation

UNIT-II

3. Change of Meaning
- .4. British English and American English

UNIT-III

5. The Grammar-Translation Method
6. The Direct Method
7. The Oral Approach and Situational Language Teaching
8. The Audiolingual Method

UNIT-IV

9. The Bilingual Method
 10. Communicative Language Teaching
-

11. The Lexical Approach

Reference

1. Albert C. Baugh *A History of the English Language*
2. Stuart Robertson and Frederic G. Cassidy *The Development of Modern English*
3. F.T. Wood *An Outline History of the English Language*
4. C.L. Wrenn *The English Language*
5. H.H. Stern *Fundamental Concepts of Language Teaching*
6. Jack C. Richards and Theodore S. Rodgers *Approaches and Methods
in Language Teaching*
7. GeethaNagaraj *English Language Teaching*
- 8.Foreign *Loan words in English*



PROJECT

TEN SESSIONS ON DISSERTATION WRITING

1. Introduction
2. Aims of the Dissertation
3. The Research Proposal

Writing the Dissertation

4. Abstract
5. Literature Review
6. Research Methodology
7. Discussion
8. Conclusion
9. Citation and References
10. Bibliography

The Dissertation is on text/texts other than those prescribed for the MA programme.



COMMERCE





***KVR GOVERNMENT COLLEGE FOR WOMEN(AUTONOMOUS),
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DEPARTMENT OF COMMERCE
SYLLABUS FOR FINAL YEAR M.COM PROFESSIONAL
FOR THE ACADEMIC YEAR 2018-2019

KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL.

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M.COM (P) BOS MEETING ON 26.06.2018



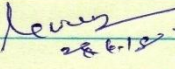
01 11
Dt: - 26.06.2018

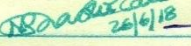
The Board of studies meeting for M.com for the academic year 2018-19 is held on 26.06.2018 at with the following members and has taken the following resolutions in the department of Commerce.

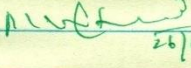
and members :-

Signature

Smt. L.V. Shobekha Rani L.V. Shobekha, Chairman

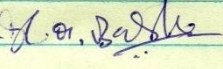
Sri Dr. G.V. Chalam  - University Nominee

Smt. Dr. Sastkala  - Subject expert.

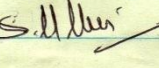
Dr. P. Venkateswarlu  - Subject expert

Sri. Uma Maheshwara Rao - Educationalist

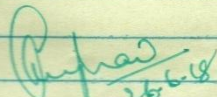
Sri. S. Rajasekhar - Corporate sector Representative

Dr. K. Mahabook Basha  - Member

r. B. Pasimala Devi  - Member.

Sri. S. Mohana Murali  - Member

Ms. Soujanya Soujanya - Alumni



PRINCIPAL
K.V.R. Govt. College for Women
(Autonomous)
KURNOOL

Resolutions taken by the Board

- It is resolved to recommend the enclosed syllabus for III & IV Semesters of M.Com (Prof). Annexure-I
- The Board also reviewed the old question papers pertaining to the 1st and 2nd Semesters and found that they are as per the syllabus and suggested model.
- It is also further resolved to recommend the following on evaluation of the theory papers, lab practical and project report.
 - (a) Each Paper there will be a Semester End Examination with 3 hrs duration for seventy marks (70) and thirty marks (30) for Internal (20 marks for Test with duration of 1 hour (Average of Two Test shall be considered) Ten marks (5) for Seminar, (5) for Attendance}.
 - (b) For evaluation of Lab component in CM-302 an external examiner shall be appointed.
 - (c) For Project Work 200 marks for dissertation with 8 credits (evaluated by both External & Internal Examiners and average mark will be taken)
 - (d) Student shall be sent to the project work in between 2nd and 3rd semester with duration of 6 weeks and the size of the report shall be between 60 to 80 pages and it shall be submitted by the student before commencement of IV Semester end Examinations.
 - (e) For Comprehensive Viva-Voce 100 marks with 4 Credits (evaluated by both external & internal examiners and average will be taken)
 - (f) Total Credits of M.Com Course:

For 24 Papers (Each Paper 4 Credits) = 96 Credits

Project Report = 8 Credits

Viva - Voce = 4 Credits

Total = 108 Credits

- ① Smt. L. V. Showtha Rani - L. V. Showtha Rani
- ② Prof. G. V. Chalam - G. V. Chalam
- ③ Dr. N. Sanki Sankala - N. Sanki Sankala
- ④ Dr. P. Venkateswarulu - P. Venkateswarulu
- ⑤ Sri. Uma Maheswara Rao -
- ⑥ Sri. Raja Shekhaw -
- ⑦ Dr. K. Mahabub Basha - K. Mahabub Basha
- ⑧ Dr. B. Parimala Devi - B. Parimala Devi
- ⑨ Sri. S. Mohana Murali - S. Mohana Murali
- ⑩ Kum. V. Sowjanya - V. Sowjanya

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SYLLABUS FOR FINAL YEAR M.COM PROFESSIONAL FOR THE ACADEMIC YEAR 2018-19

SEMESTER - III

STRATEGIC MANAGEMENT

Internal Marks: 30
3Hrs External Marks:70

No. of Hours per Week: 5

Exam Duration:

Unit: - I: - Introduction : Business policy and Strategic Management – Nature – Importance And Strategic Management Process- Defining the Company Mission.

Unit: - II: - Environmental Analysis: Environmental Scanning: - Economic, Social, Technological and Market Environment – SWOT Analysis – Environmental Forecasting.

Unit: - III: - Formulation of Strategies: Long term objective –Strategic Planning – Alternative. Strategies and Management choice – Combination of Strategies.

Unit: - IV:- Implementation of Strategies : Functional Strategies – Impact of Leadership on implementation – Resource, organisation and planning implementation – Role of Management in implementation.

Unit: - V:- Strategy Evaluation - Importance - Symptoms of malfunctioning of strategy - Organization anarchies - Operations Control and Strategic Control - Measurement of performance - Analyzing variances - Role of organizational systems in evaluation,.

Reference Books:

1. John Pearce & Robison Strategic Management
 - 2 Francis Cherunilam : Strategic Management .Himalaya Publishing House.
 3. Azhar Kazmi : Business Policy, TataMcGraw Hill.
 4. P.K. Ghosh: Business Policy Strategic Management
-

5. L.M. Prasad :: Business Policy and Strategy
6. William F. Glueck, Lawrence R. Janch : Business Policy and Strategic Management
7. Shiva Ramu: Strategic Alliances Response Books , A Division of Sage Publications Pvt.Ltd.

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SYLLABUS FOR FINAL YEAR M.COM PROFESSIONAL FOR THE ACADEMIC YEAR 2018-19

SEMESTER - III

ADVANCED FINANCIAL ACCOUNTING AND ACCOUNTING PACKAGES

Internal Marks: 30

No. of Hours per Week: 5

Exam Duration: 3Hrs

External Marks: 70

Objective: The objective of this course is to provide an understanding of computers, computer operating system and application of relevant software in managerial decision-making.

Unit-I: Tally: Features of Tally accounting – Components of Gateway of Tally – Company creation – Creation of groups - Creation, display, and alteration of multiple and single ledgers – Various types of vouchers – Creation and alteration of vouchers – Configuration and print of financial statements and other reports, documents and vouchers – Tally Inventory - Configuration – Creation, display, and alteration of inventory masters – Recording various inventory vouchers – Display and print of inventory reports – Lab exercises.

Unit-II: VAT: Enabling Tally for VAT – Features and Classification of VAT – VAT treatment for purchase and sales returns, duties, taxes and discounts – Exemptions from VAT – Exports and imports – Inter-state purchases and sales – Purchase of capital goods - VAT computation – Lab exercises.

Unit-III: TDS: Creation of ledgers and vouchers – Advance and balance payments of Tax – Generation of TDS reports – Enabling Service tax - Creation of ledgers and recording of vouchers – Lab exercises.

Unit-IV: Payroll: Payroll features - Enabling payroll – Creation of Pay head ledgers – Creation of employee masters and pay roll voucher and attendance voucher – Display and print of various payroll reports - Lab exercises.



Unit- V: SPSS: Features and uses of SPSS – Opening Files – Working with data – Summarizing the data – Data representation through calculation of Mean, Median, Mode – Chi- Square – t test – ANOVA and Correlation through SPSS.

REFERENCE BOOKS:

1. Nadhani, A.K. and Nadhani, K.K. Implementing Tally 7.2 BPB Publication, New Delhi.
 2. Kiran Kumar, K.Tally 9, Laasya Publishers, Hyderabad
 3. Fire wall media, Tally 9.
 4. Vishnu Priya Singh, tally 9, Computech Publications Ltd, New Delhi.
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SYLLABUS FOR FINAL YEAR M.COM PROFESSIONAL FOR THE ACADEMIC YEAR 2018-19

SEMESTER - III

FINANCIAL MARKETS AND INSTITUTIONS

Internal Marks: 30 No. of Hours per Week: 5 Exam. Duration: 3 Hours

External Marks: 70

Objective: *To equip the student with an understanding of the structure, organization, and working of financial markets and institutions connected with the regulation of these markets in India.*

UNIT – I: Financial System

Meaning and Objectives of Financial System; Structure of Financial System -Components: Financial Markets – Financial Institutions – Financial Instruments – Financial Services; Functions of Financial System; Role of Financial System in Economic Development.

UNIT – II: Money Market

Concept, Features, Functions and Significance of Money Market; Money Market Instruments; Segments of Money Market – Call / Notice Money Market - Commercial Bills Market - Treasury Bills Market – Discount and Acceptance Markets - Commercial Papers – Certificates of Deposit –Repo Instruments; Role and Challenges of Money Market in India.

UNIT – III: Primary Market

Concept, Features, Functions and Significance of Capital Market; Structure and Recent Developments of Capital Market in India; Primary Market / New Issues Market: Initial Public Offer (IPO) – Follow on Public Offer (FPO) – Rights Issue – Private Placements – Preferential Issues – Bonus Issues - Book-Building .

UNIT – IV: Secondary Market

Secondary Markets: Stock Exchanges – Organisation – Functions - Players - Management and Membership; Listing of Securities; Trading and Settlement Systems; Stock Market Indices; Bond Market: Significance – Functions – Participants; Depositories and Custodians – National Securities

Depository Limited (NSDL) – Central Depository Services Limited (CDSL) – The Stock Holding Corporation of India Limited (SHCIL) - Recent Developments in Stock Market.

UNIT – V: Institutional Regulatory Framework

RBI: Introduction, Importance, and Functions of RBI – RBI and Monetary Policy - Promotional Role of RBI; SEBI: Organization Structure - Objectives – Powers and Functions – SEBI Regulations relating to Capital Markets – Investors Education and Protection.

References:

- 1) Avadhani, Investment and Securities Markets in India, Himalaya Publications, Delhi.
 - 2) Bhole, L.M., Financial Markets and Institutions, Tata McGraw Hill Education Private Limited, New Delhi.
 - 3) Khan M.Y., Indian Financial System, Tata McGraw Hill Education Private Limited, New Delhi.
 - 4) Preeti Singh, Dynamics of Indian Financial System - Markets, Institutions & Services, Ane Books Private Limited, New Delhi.
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SEMESTER - III

SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

Internal Marks: 30 *No of Hours per week: 5* Max Time: 3hrs

External Marks: 70

Objective: To equip the student with Concepts, tools. and techniques required to understand and analysis securities and portfolios.

UNIT: I: - Investment:-

Nature and scope of investment Analysis- Characteristics of investment Gambling – Investment Vs Speculation –types of investment – Investment Avenues: Financial and non-financial investment avenues –Approaches to investment Analysis – sources of financial information.

UNIT: II: - (A) Elements of investment:- Return and Risk; Elements – systematic Risk and unsystematic Risk-measurement of Return and Risk

(B) Valuation of Securities:- Concept of present value – Valuation of bonds /Debentures, preference shares, and Equality shares

UNIT: III: - (A) Fundamental Analysis:-Economic Analysis, Industry Analysis and Company Analysis

(B) Technical Analysis: - Meaning and principal of technical Analysis; Dow theory-Trends, indicator, indices and moving Average applied in Technical Analysis.

UNIT: IV: - (A) Efficient Market Hypothesis: weak, semi – strong and strong market and its testing techniques.

(B) Portfolio Analysis: -Estimating Rate of Return and standard Deviation of portfolio- Effect of Combining the securities- Markowitz Risk – Return Optimisation - Single index model or Market model –portfolio total risk, portfolio market risk and unique risk – measurement of portfolio performance.

UNIT: V: - Portfolio revision: Concept-Need for Portfolio revision-Passive management-Active management-Formula plans-Types of formula plans-Constant rupee value plan-Constant ratio plan-Variable ratio Plan-Rupee cost averaging-Portfolio revision strategies.

References Books:

1. Ambling, Fundamental of Investment Analysis, Prentice Hall, International Edition
2. Bhalla, Investment Analysis, S Chand & Co., Delhi
3. Donal, Fishen, and Donald Borden: Security Analysis and Portfolio Management, Prentice Hall, New Delhi.
4. Febozzi, Frank J. Investment Management, Prentice Hall, International edition.

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SEMESTER - III
Corporate Legal Framework

Internals Marks: 30

No of Hours per week: 5

Exam Duration: 3Hrs

External Marks: 70

Objective: To equip the student with Concepts, tools. and techniques required to understand The Law.

Unit-I: The companies Act,1956(Relevant Provisions): Definitions , types of companies, Memorandum of association ,Articles of Associations, Prospectus , share capital and membership.

Unit-II



Meeting and Resolutions ,Company Management, Managerial Remuneration, Winding up and dissolution of companies.

Unit-III

The Negotiable Instruments Act, 1881: Definition, Types and Negotiable Instruments , Negotiation Holder and holder in due course, Payment in full ; endorsement and Crossing of cheque ; Presentation of negotiable instruments.

Unit-IV

MRTP Act 1969: monopolistic trade practices; Restrictive trade practices; unfair trade practices.

Unit-V

The consumer protection Act, 1986 features; Definition of consumer, Right of consumer, Grievance Redressal Machinery.

References:-

1. Corporate Legal Frame work by Dr.G.K.Varshney.
2. Legal Aspects of Business by K.Ramachandra.

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SEMESTER - III
INTERNATIONAL FINANCIAL MANAGEMENT

Internals Marks: 30

No of Hours per week: 5

Exam Duration: 3Hrs

External Marks: 70

UNIT-I International Finance and Multinational Business Firms: Evolution and Scope of International Finance – International Financial Functions - Goals of International Financial Management –Motives for International Investments - International Monetary System.

UNIT – II Foreign Exchange Markets: Major Participants – Exchange Rate Mechanism - Determination and Forecasting of Exchange Rates - Quoting Foreign Exchange Rates - Fixed vs. Flexible Exchange Rate Regimes - Measurement and Management of Foreign Exchange Exposures.

UNIT– III International Capital budgeting: International Project Appraisal Techniques – Adjusted Present Value – Risks in Cross boarder Investment decisions - Cost of Capital for foreign Investments and Financing Decisions of a Global Firm.

UNIT–IV Management of Working Capital at International Perspecive: Cash Management, Management of Receivables and Inventory Management of a Global Firm - Financing Strategies of Current assets.

UNIT-V Global Financial Markets – International Equity Market – International Bond Market – International Debt Instruments - Euro Markets – International Financial Institutions.

References:

1. Apte, P G., International Financial Management, Tata McGraw Hill, New Delhi.
 2. Bhalla V.K., International Financial Management, Anmol Publications, New Delhi.
 3. Eiteman, David K., Arthur I. Stonehill and Michael H. Moffett, Multinational Business Finance, Addison Wesley, New Delhi.
 4. Ephraim Clark., International Financial Management, Cengage, New Delhi.
 5. Eun Cheol S., Bruce G., Resnick, International Financial Management, Tata McGraw Hill, New Delhi.
 6. Sailaja, G., International Finance, Universities Press.
 7. Jeff Madura. International Financial Management, Cengage, New Delhi.
 8. Reid W.Click and Joshua D Coval., Theory and Practice of International Financial Management,Prentice Hall of India, New Delhi.
 9. Shapiro, Alan., Multinational Financial Management, Prentice Hall of India, New Delhi.
 10. Thummuluri Siddaiah, International Financial Management, Pearson, New Delhi.
 11. Vyuptakesh Sharan, International Financial Management, Prentice Hall of India, New Delhi
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SEMESTER - IV

INTERNATIONAL BUSINESS

Internal Marks: 30

No. of Hours per Week: 5

Exam Duration: 3Hrs

External Marks: 70

Objective: This course exposes the students to the environmental dynamics of international business and their impact on international business operations of firms



Unit I: INTRODUCTION TO INTERNATIONAL BUSINESS :

International business meaning nature- scope – importance-drivers of international business- approaches-economic environment-socio-cultural environment-technological environment-political environment- competitive advantages & problems of international business.

Unit II: GLOBALISATION & MULTINATIONAL CORPORAION:

Globalization- meaning nature- scope importance drivers of international business- approaches-economic environment – technological environment-political environment-competitive advantages & problems of international business.

Unit III: INTERNATIONAL TRADE POLICIES & BLOCKS:

Introduction – tariffs-subsidies – import quotas constraints “Govt’s interventions in formulating trade policies- economic integration Economic Community (ECE) North American Free Trade Agreement (NAFTA) the Association of South-East Asian Nations (ASEAN) South Asian Association for Regional Cooperation (SAARC)- Implications of trade blocks on business.

Unit-IV: INTERNATIONAL ECONOMIC INSTITUTION & AGREEMENTS :

Introduction – General Agreement on Tariffs and Trade (GATT) – World Trade Organization (WTO) – Structure – Functions- WTO agreements- International Monetary Fund (IMF)- World Bank .

Unit:-V: CONFLICT MANAGEMENT AND ETHICS IN INTERNATIONAL BUSINESS

MANAGEMENT- Disadvantages of international business – Conflict in international business- Sources and types of conflict – Conflict resolutions – Negotiation – the role of international agencies –Ethical issues in international business – Ethical decision-making

Reference Books:

1. Subba Rao, P. Internatioanl Business. Text & Cases Himalaya Publishing House, Mumbai.
 2. Justin Paul, International Business. Prentice- Hall of India Pvt, New Delhi.
 3. Francis Cherunilam. International GBusiness Text & Cases. Third Edition, Prentice Hall of aindia apvt a New Delhi.
 4. Ricky W Griffin & Machael W putay. International business Addison Wesley Reading.
 5. Rathor & Jani International Marketing, Himalaya Publishing, Mumbai.
 6. John Fayer Weather, “International Business Management” , A conceptual Framework”, Mc Graw Hil, New York.
- Aswathappa. K., International Business Text and Cases Himalaya Publishing House, Mumbai
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SEMESTER – IV

E-COMMERCE

Internal Marks: 30
External Marks: 70

No. of Hours per Week: 5

Exam Duration: 3Hrs



Objective: This course exposes the students the practical application of E-Commerce and usage of E-Commerce

Unit I: INTRODUCCION-E- COMMERCE

Definition-Scope of E-Commerce (Ec)-Advantages and disadvantages of E- Commerce- Business to Business (B2B)- Business to Consumers (B2C) The Frame work of E.- Commerce- Electronic Markets Information Technology and Business.

Unit II :THE INTERNET

Evolution of the Internet —Internet for Business -Category of networks- World Wide Web (WWW)- Internet Service — Concerns about the internet-Building own website.

Unit III: ELECTRONIC MARKET

Procedures for Internet shopping-Web advertisement - ordering journals electronically — Selling on the web. E-Commerce for service industries Broker based services travel and Tourism services, Employment placement Element the job market —Trading stocks online.

Unit IV :ELECTRONIC PAYMENT SYSTEMS

Security schemes in Electronic payment systems-Electronic Credit card systems on the intern- Electronic fund Transfer and Debit cards on the Internet Stored —Value cards and E-cash

Unit V: E-SECURITY

Internet Protocols — Internet Security — Encryption digital signatures — Secure Electronic Transactions — Firewalls : Access Control.

Reference Books:

1. C,S,V.Murthy," Electronic Commerce, Himalaya Publishing House Mumbia
- 2 Efrain Turban, Jay lee. David king and H.Michel Chung. Electronic Commerce A Managerialperspective. Pearson Education Asia
3. Kamalesh K Baja and Debjani Nag E-Commerce. Tata Mc Graw-Hill Publish Company Limited. New Delhi.

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SEMESTER - IV

Paper Code:403 Goods and Service Tax

Internal Marks: 30

No. of Hours per Week: 5

Exam Duration:

3Hrs External Marks:70

Objective: This course exposes the students the practical application of GST.

Unit-1:Introduction:

Overview of Goods & Services Tax System and Drawbacks- Need for Tax Reforms-Kelkar Committee on Tax Reforms-Constitutional Amendments-Introduction to GST –Concepts – process of GST Implementation-Territorial Jurisdiction-Multiple Rates of GST.

Unit-2: GST Model:kelkar-Shah Model- Comprehensive structure of GST model in India :Advantages and Drawbacks of GST –Features of Single and Dual GST Models.

Unit-3: Taxes and Duties: Transactions & taxes covered under GST-**Taxes and duties outside the purview of GST:** Tax structure, computation administration of Tax on items containing Alcohol, Petroleum products and Tobacco products-Taxation of services.

Unit-4Inter-State Goods and Service Tax:Major advantages of IGST Model –Interstate Goods and Service Tax : Transactions within a State under GST-Interstate Transactions under GST – Illustrations.

Unit-5:Time of Supply of Goods & Services: Scope of Supply –Place and Value of Supply – GST Rate Structure .Input Tax Credit-Tax Invoice –Distribution of credit –procedures and Records for Input Tax Credits –Utilization, Recovery of Input Tax Credits- Levy and Collection ,Tax Liability ,Reserve Charge, Composite and Mixed Supplies, Exemptions and Non –Taxable Supplies.

References:

- 1.Goods and Services Tax in India-Notifications on different dates.
2. GST Bill 2012.
3. Background Material on Model GST Law, Sahitya Bhawan Publications, Hospital Road, Agra -282003
- 4.The Central Goods and Services Tax Act, 2017,No.12 OF 2017 published by Authority, Ministry of Law and Justice, New Delhi, the12th April, 2017.

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SEMESTER – IV

Paper Code : 404 MANAGEMENT OF FINANCIAL SERVICES

Internal Marks: 30 No. of Hours per Week: 5

Exam Duration: 3Hrs

External Marks: 70

Objective: *To equip the student with an understanding of the structure, organization, and working of financial services and institutions connected with the regulation.*

- UNIT-I : Financial Services- Financial system and Markets- nature and Scope of Financial Services – Financial Intermediation- Regulatory Frame work for Financial Services- Financial Services and Management.
- UNIT-II : Asset Financing Services- Leasing –Legal, Tax and Accounting aspects of Leasing – Hire Purchase- Financial Evaluation of Hire purchase Deals – Debt Securitization – Housing Finance – Inter Corporate Loans.
- UNIT-III : Merchant Banking Services- Role and Functions of Merchant Banking – Issue market and other services- Corporate Advisory Services- Market Making Process- SEBI guidelines on Merchant Banking.
- UNIT- IV : Financial Market Operations – Stock Exchange operations – Stock Broking Services- Underwriting Services – Role of Portfolio Managers and Registrars – Mutual Funds- Regulations of SEBI on Mutual Fund Operations.
- UNIT- V : Allied Financial Services- Venture Capital – Insurance Services- Factoring Forfaiting Discounting – Depository system- Custodian and Custodial Services – Credit Rating – Credit Cards

References:

1. Bhalla.V.K. Managemetn of Financial Sercies, Anmol Publicatios, New Delhi
 2. Chinmaoy sahu, Management of Financial Sercies, Excel Books, New Delhi
 3. Avadhani V A Marketing of Financial Services, Himalaya Publishing House, Mumbai
 4. David B and Zenoff: Markeing of Financial Services, Ballinger Publishing Co.
 5. M.Y.Khan Financial Services Tata Mc Graw Hill, New Delhi
-

6. Gordon E and Natarajan K Financial Markets and Services, Himlaya Publishing House, New Delhi
7. Verma J C Merchant Banking, Tata McGraw- Hill, New Delhi
8. 7 Knnew C Trevor Watkins & Mike Wright- Marketing of Financial Services Heinemann Professional Pub.
9. Ramesh, S and Arun Gupta Venture Capital, Oxford University Press.



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SEMESTER – IV

Paper Code :405

RISK MANAGEMENT

Internal Marks: 30 No. of Hours per Week: 5 Exam Duration: 3Hrs

External Marks: 70

Objective: *To equip the student with an understanding of the structure, organization of Insurance, Risk Management.*

UNIT-I Risk & Risk Management process – Risk Identification, Evaluation -Risk Management Techniques, Selecting and Implementing Risk Management Techniques – Risks in our Society – Insurance and Risk.

UNIT-II Commercial Liability Insurance – Commercial Risk Management Applications – Property – Liability – Commercial Property Insurance, Different policies and contracts – Business Liability and Risk Management – Workers compensation and Risk Financing.

UNIT-III Property and Liability Insurance Coverage – Personal Risk Management Applications – Property – Liability – Risk Managements for Auto Owners – Risk Management for Home Owners.

UNIT-IV Risk Management Applications – Loss of Life – Loss of Health – Retirement Planning and annuities – Employee Benefits – Financial and Estate Planning.

UNIT-V Risk Management Environment – Industry – Functions and organisation of Insurers – Government Regulation of Insurance Sector – IRA – Privatization of Insurance – Changes in Insurance Acts – Insurance Intermediaries – Insurance Product pricing and Claim valuation – Financial Analysis – Bank Assurance – Foreign Insurers in India.

References: 1. McNamara principles of Risk Management and Insurance, Addison- Wesley,
2. Dorfman, Introduction to Risk Management and Insurance, PHI.
3. Anand Ganguly Insurance Management PHI, New Delhi,2005
4. George E Resda, Risk Management and Insurance



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SEMESTER – IV

Paper Code :406

FINANCIAL DERIVATIVES

Internal Marks: 30

No. of Hours per Week: 5

Exam Duration: 3Hrs

External Marks: 70

OBJECTIVE: To make student efficient in the area of derivatives, giving them the knowledge of basics in Derivates. Future Markets, Options and Swaps etc.

UNIT-I: INTRODUCTION TO FINANCIAL DERIVATIVES:

Definition – Features - Types - Uses - Critiques - History of Derivatives Markets - Financial Derivatives Indian Scenario - Evolution of Derivatives in India; Benefits of Derivatives - Equity Derivatives - Derivatives Trading at NSE and BSE - Emerging Structure of Derivatives Markets in India (Theory only).

UNIT- II: FUTURE AND FORWARD CONTRACTS AND MECHANISM:

Introduction to Forward and Future contracts - Distinction between Futures and Forwards contracts - Future Terminology and Types of Financial future contracts - Future payoffs - Operation of Traders in Futures market - Growth of Future market in India - Future market trading Mechanism - Forward market trading Mechanism - Forward Prices Vs. Future Prices - Determination of Future prices of specific assets- Futures on commodities - Theory of future prices - Recommendations of L.C Gupta Committee (Theory only).

UNIT- III: PRICING OF OPTION:

Concept of Option - Futures Vs. Options - Determinants of option prices - Black Scholes Option pricing- Binomial Pricing model (Including Problems).

UNIT- IV: SWAP MARKET:

Concept and Nature - Evolution of Swap Market - Features of Swap - Types of Financial Swaps: Currency Swap, Interest Rate Swap, Equity Index Swap, Commodity Swap - Credit Risk in Swap and Credit Swap - Using Swap to Manage Risk - Pricing and Valuing Swap (Including Problems).

UNIT- V: STOCK INDEX FUTURES AND OPTIONS



Concept of Stock Index – Stock Index Futures - Stock Index Futures as a Portfolio Management Tool –
Speculation and Stock Index Futures - Stock Index - Futures Trading in Indian Stock Market
-Stock Index options-Trading of Stock Index options (Theory and Problems)

Reference Books:

1. Jayanth Rama Varma: Derivatives and Risk Management, TMH,
2. Mishra Financial Derivatives, Excel,
3. S.L. Gupta: Financial Derivatives: Theory, Concepts and Problems, Prentice Hall,
4. S.S.Kumar, Financial Derivatives, PHI,
5. David A. Dubofsky, Thoamas W Multer, TR: Derivatives Valuation and Risk Management, Oxford,
6. Don M. Chance, Robert Brooks: Derivatives and Risk Management Basics, Cengage

HISTORY

SEMESTER — III SYLLABUS PAPER -

XI : H I STORY OF MODERN INDIA (1750 —1857)

UNIT I

Advent of Europeans — Anglo-French Conflict — Expansion and Consolidation of British power in India



UNIT — II

British supremacy in Bengal — Robert Clive — Warren Hastings — Lord Cornwallis, revenue and reforms — Lord Hastings, Policy of subordinate Isolation — William Bentinck and his reforms.

UNIT — III

Lord Dalhousie — Doctrine of Lapse, British Paramountacy on princely states in India
Resistance to British Rule - Peasant and Tribal uprisings — Sepoy Mutiny of 1857 - Colonial state and its ideology — Social Institutions — Class legal political thought — Orientalism — Utilitarianism.

UNIT—IV:

Constitutional development in India from 1773 — 1858 - Rural Economy — Land Revenue settlements — Commercialisation of Agriculture — Free trade policy — Drain

of wealth — De-industrialization - Trade and Industry - Emergence of Modern Industries (Jute, Cotton and Steel). SUGGESTED READINGS:

Rayly C.A

Dharma Kumar & Roy Choudary T Percival Spheer Grover & Sethy Smith V.A

Arun Bhattacharya

: Indian Society and the Making of the British Empire

: Cambridge Economic History of India, Vol .11 : History of India, Vol. 11

: An Outlook of History of Modern India : Oxford History of India

SEMESTER—III SYLLA BUS

PAPER — XII: HISTORY OF MODERN WORLD (1789 — 1919)

UNIT —1 :

French Revolution — causes — results. The Era of Napoleon — Domestic and Foreign policy of Napoleon - Decline of Napoleon's power.

Congress of Vienna — Concert of Europe — Matternich.
Colonialism and Imperialism in Asia and Africa — A survey.

UNIT - II :

French Revolution of 1830 -- Revolution of 1848 — its impact. Unification of Germany — Unification of Italy

UNIT - 111 :

Secret Alliances — triple Alliance — triple Entente. The Crimean War — Eastern Question - Balkan Wars

UNIT IV:

Russian Revolution of 1917 — causes and results outbreak of First World War

Treaties of peace League of Nations — post war diplomacy.

SUGGESTED READINGS

Leo Gershoy

The French Revolution

Lipson

Europe in the 19th 20th Centuries

Seaman

From Vienna to Versailles

Hays	Political and Cultural History of Modern Europe
Somer Well, Dc	Modern Europe 1871 — 1950
Arun Bhattacharya	A History of Europe



SEMESTER — III : SYLLABUS

PAPER - XIII: HISTORY OF MODERN EAST ASIA — (CHINA : 1850 - 1950) UNIT - I :

Historical background - Advent of Europeans — Western impact on China Opium wars — The treaty of Nanking — An assessment

Taiping Rebellion — HuanHsiu Chuan

Second Anglo — Chinese war — Treaty of Teinsen — Treaty of Peking — its impact

UNIT : II:

Empress Dowager Tzu — Tsi — Modernisation of army, Navy, Industrialisation, Education — Diplomatic and political liaison with the West.

Korea and Sino — Japanese relations — Sino- Japanese conflict 1894 — 95. Tonghak rebellion — defeat of China — Treaty of Shimonoski.

USA and China open door Policy — Reaction — Result and impact.

UNIT — III:

Reform movement in China — Kuang — Yu-Wei, - 100 Days reforms. Boxer rebellion — Protocol — Constitution of 1908 — Death of Tzu-Tsi. Dr. Sun — Yat-Sen-Tung-Ming-Hui, - Three principles.

Revolution of 1911 — Significance and character of revolution. China under Republic — Yuan — Shi-Kai-May fourth movement.

UNIT — IV :

Kuomingtung - Reforms of Nanking government — Washington conference. Difference in KMT — Chiang — Kai-Shek-Struggle between KMT and Communists — The Long March — Japanese aggression — Sino — Japanese war.

Foundation of Communist party — Mao-Tse-Tung-New democracy — Red army — Civilwar in China — Peoples Republic of China — Sino-Soviet relations — China and West. China and the Third World — China and the UNO.

SUGGESTIVE READINGS

Ahmed. L.L.	: A Comprehensive History of the Far East.
Clyde Paul. H	: The Far East
Immanuel. C.Y.Hsu	: The rise of Modern China
Gupta. S.R.	: History of Modern China
Shiv Kumar and Jain. S.	: History of the Far East in Modern Times
Clyde and Bears	: The Far East
Vinacke. H. M.	: A History of the Far East in Modern Times.



SEMESTER-III SYLLABUS

PAPER XIV (OE-2): LEADERS OF MODERN INDIA Unit — I:

Social

Raja Ram Mohan Roy — Swami Dayanand Saraswathi — Kandukuri Veeresalingham Pantulu — Jyotirao Phule — Swami Vivekanand — B.R. Ambedkar.

Unit — II: Early Political leaders of India

Dadabhai Naoroji — Pherozeshah Mehta — Surendra Nath Banerjea — P. Ananda Charlu — Gopal Krishna Gokhale — Motilal Nehru — Deshbandhu Chittranjan Das.

Unit — III: Extremists

Bal Gangadhar Tilak — Lala Lajpat Rai — Bipin Chandra Pal — Aurobindo

Ghosh. Unit — IV: Gandhian Era

Mahatma Gandhi — Mahammad Ali Jinnah — Annie Besant — Jawaharlal Nehru — Sardar Vallabhbhai Patel — Subhash Chandra Bose — Tanguturi Prakasam Pantulu — C.RajaGopalachari.

Reference Books:

1. B. Majumdar : History of Political thought from Ram Mohan to Dayanandha.
2. Sankar Ghose : Leaders of Modern India, Alted Publication, New Delhi, 1980
3. D.R. Bali : Modern Political thought (From Ram Mohan Roy to Jeyaprakash Narayan) Sterling Publication, New Delhi, 1993
4. Park. R.L. & Thinker.I : Leadership and Political Institutions in India
5. Saiyid M.H.: Mohammed Ali Jinna
6. Malik H: Muslim Nationalism in India and Pakistan
7. Dass M.N.: The Political Philosophy of Jawaharlal Nehru
8. Hoyland J.S.: Gopalakrishna Gokhale



SEMESTER — III SYLLABUS (OPTIONAL)

PAPER — XV: (A) HISTORY OF APPLICATIONS IN TOURISM

UNIT — I : Characteristics of Tourism.

- a). Tourism — Concept and Functions
- b). Tourism Phenomenon — understanding Tourism
- c). Historical Evolution and development
- d). Tourism system and regulations.

UNIT — II: Designing of Tourism — Marketing and Communications.

- a). Tourism marketing — relevance, Product design, market research b)
.Promotional events — advertising publicity, selling
- c). Role of media — writing for tourism — Personality development and
communicative skills.

UNIT — III: History of a Tourism Product.

- a). Use of History in Tourism.
- b). Monuments (Major and Minor) and Museums
- c). Historicalites — Cultural Heritage — dance and music, festivals and fairs.

UNIT — IV :Understanding Tourists and Hosts.

- a). Profiling of Foreign tourists.
- b). Profiling domestic tourists.
- c). Guest — relationships.
- d). Sociology anthropology and Tourism.
- e). Social environmental and political impact on Tourism in AP.
- d). Role of meta in promoting Tourism in A.P.

SUGGESTED READINGS

Chris Cooper & Fletcher Wahab, S.

R. Guha

Joan Bake Well James, W. Morrison

Edward, D. Mills Pierce, Douglas

Bhatia, A.K.

Harle, J. C. Subramanian

: Tourism, Principles and Practices.

: Tourism marketing.

: The Complete Traveler.

: Travel Agent and Tourism.

: Design for holidays and Tourism.

: Tourism Today, The Geographical
Analysis

: Tourism, Principles

: The Art & Architecture of the Indian
subcontinent. : Historiography

: Subaltern



SEMESTER — III SYLLABUS (OPTIONAL) PAPER — XV :

(B) HISTORY OF INDIAN ARCHAEOLOGY

UNIT — I :

Definition — scope — Nature — Terminology — Value. Development of Archaeology in Europe, Africa and India. Archaeology and its relation with natural sciences. Kinds

of Archaeology — Economic Archaeology — Ethno Archaeology — Under water Archaeology — Aerial Archaeology — Salvage Archaeology — Functions of Archaeologists.

UNIT — II:

Archaeology and other Sciences — Dating methods.

Archaeology and Geology — Glacial varve chronology — soil Science

Archaeology and Physics — Radio carbon dating — thermo — luminescence dating
Archaeomagnetism — potassium argon dating

Archaeology and Chemistry — Fluorine dating — Uranium dating — Nitrogen dating
Phosphate analysis

Archaeology and Botany — Pollen analysis — Dendro chronology — Statistical methods.

UNIT - III

Pre — History — Indian Pre history — Paleolithic culture — the hunters and gatherers Mesolithic cultures.

Neolithic cultures — food producers age — Copper age cultures.

UNIT — IV :

Protohistory — Bronze age in India — Harppan culture — beginning of the urbanization
Iron age cultures — PGW culture — Megalithic cultures.

SUGGESTED READINGS

Wheeler	:Archaeology from the Earth
Sankalia, HD	:Indian Archaeology Today
	Principles and Methods of Indian Archaeology
Child, VG	Introduction to Archaeology
Glynn Daniel	Hundred years of Archaeology



SEMESTER —III SYLLABUS (OPTIONAL)

Paper — XV: (C) History of Social Philosophers of the Modern India

UNIT I

Subaltern Intellectuals: Explaining the concept of Intellectual- Jotiba Pule — Life and Ideas. Education for Women and Sudras. Satya Sodak Samaj movement: Women rights: Opposition to Brahmins and Untouchability understanding of religion: His work "Gulamgiri" .

UNIT II

Narayanguru: Social movement among Ezhavas Reformation of Religion: Education and Identity of Ezavas. Ayyankali and his contribution to depressed classes. Pandit Jyothi Das and his social revolution.

UNIT III

E.V.Ramaswami Naiker: Political activities Congress Party and Justice Party: Self respect movement; Dravida Kazhagam. Ideas of Dravidanadu; Leader of backward Classes and Untouchables: Islam and Christianity; Hinduism and Brahmanism Caste and untouchability; communalism; As an atheist;

UNIT IV

Dr.B.R.Ambedkar: social thoughts of B.R. Ambedkar and its relation to political and economic rights of Daliths. Ideas on religion and philosophy in comparison to Marxism and Gandhism; views on Islam and Christianity.

UNIT V

The Neo dalit leaders- Kanshirm-Mayavathi

Dalit leaders in A.P. Damodaram Sanjeevaiah ; Kathi Padma Rao.

Dalith awakening in Andhra- Struggles against dominant castes .(Dalith in Modern India:

Suggested readings

1. Collected works of Mahatma, Jotiba Phule. Govt. of Maharashtra.
 2. Keer, Dhanunjay- Mahatma Jothirao Phule, Father of Social revolution.
 3. Padma Rao, Kathi- Dalith Social Thinkers
 4. Periyar E.V.R.Swami, Social Reform or Social revolution-(Tr) A.H.Dharmalingam.
 5. Dr. Baba Saheb- Ambedkar writings-Vasantmoon
 6. Oomen,T.K.- Protest and change: Studies in Social movements.
 7. Ambedkar- What Congress and Gandhi have done to the untouchables.
 8. Gehlot. N.S.- Dr.Ambedkar, Mahatma Gandhi and Dalit Movement
 9. Patil.V.T. — Studies in Ambedkar.
 10. Brajnarayana- De-Brahmanising History, Dominance and Resistance in Indian Society.
 11. Satyanarayana Adapa- Dalits and upper castes
 12. Rajasekhar-A.M. - Ambedkar: The Quest for Social Justice.
 13. Venkataraman, S.R.- Untouchables Liberation movement, Madras.
 14. Dolbeer, Martin, Luther- The Movement for the emancipation of untouchable Classes in South India.
 15. Abbasayulu, Y B. — Scheduled caste Elite: A study of Scheduled castes in A.P.
-

16. Gai Omvedt. — Dalithsand Democratic Revolution- Dr. B.R.Ambedkar and the Dalit movement in Colonia India.
17. Chinna Rao. Y- Dalits struggle for Identity.
18. S.M.Michael- Dalits in Modern India, Vision and Values.
19. Sanjay Paswan & Paramanshi Jaieva:- Encyclopaedia of Dalits in India.
20. Gurram Jashua, Gabbilam, Literature and Ideology.
21. M.S.A. Rao- Social movements in India.
22. Rkamalcrishna V- Social reform in Andhra



SEMESTER — IV : SYLLABUS

PAPER - XVI: HISTORY OF MODERN INDIA (1858 — 1950)

UNIT — I: India under the Crown.

Administration of Lord Canning — Lord Lytton — Lord Rippon and Lord Curzon.

UNIT — II: Cultural Change and Socio — Religious reform movements.

Rise of modern education and press — Rise of new intelligentsia and composition
Social reform movement - women and changing position and attitudes -

Sanskritisation — Caste movements — Non Brahmanical and depressed classes.

UNIT - III : National Movement.

Political ideology and organizations - Formation of the Indian National Congress —
Moderates and Extremists — Swadeshi Movement — Revolutionaries — Emergence of
Communal consciousness .Gandhian Era .Socialist and left movements =
Peasant movements — Working class and Trade union movements.

UNIT — IV : Growth of Representative Institutions.

The Act of 1909 — The Act of 1919 — Provincial Autonomy — The Government of India
Act 1935 — Quit India Movement — Declaration of Independence in 1947 —Partition
—India,Pakistan - Displaced Persons and Rehabilitation — Agrarian Reforms Integration
of Princely States — Framing of Constitution — Situating India in the Global context.

SUGGESTED READINGS:

- | | |
|---------------|---|
| Bipan Chandra | : History of Modern India. |
| Sumith Sircar | : Modern India 1857 — 1947. |
| Gopal, S. | : British Policy in India. |
| Grower, B.L. | : A New look on Modern Indian History |
| | : A documentary study of the British Policy towards
Indian Nationalism |
| Lee-Warner | : The Native States of India. |
-

Paukar, K. N.	: Introduction to the Study of the Relations of Indian States with the Govt. of India.
Arun Bhattacharjee	: A History of Modern India 1707 — 1947.
Junith, M. Brown	: Modern India.
Kapoor, A.C.	: Constitutional History of India.



SEMESTER — IV: SYLLABUS

PAPER — XVII: HISTORY OF MODERN WORLD (1919 — 1980) UNIT :

- a). New Dictatorship and old democracies.
- b). Nazism in Germany — Hitler. Fascism in Italy — Mussolini.
- c). Mustafa Kemal Pasha — Turkey, Militarism in Japan.

UNIT —II:

- a). The Quest for Security — The draft treaty of Mutual assistance of 1923 — The Geneva protocol of 1924
- b). The Locarno treaty of 1925 — The pact of Paris 1928.
- c). Washington conference of 1921 — Disarmament — Collective Security.

UNIT — III:

- a). Soviet union 1919 — 1939 — Civil war 1918 — 1920 - Stalin Economic policy — International Communism - Foreign policy.
- b). The Manchurian incident of 1931 — Importance of Manchuria for Japan — The League and the Manchurian crisis
- c). The Spanish Civil war — Political instability — prelude to civil war.
- d). Foreign policy of U.S.A. from 1919 —1939.

UNIT -IV:

- a). Second World War — Causes — The World in 1945 and afterwards.
- b). Cold war and its various dimensions — Arms Control and Disarmament — Role of the UNO.
- c). Disarmament agreements — Non — Aligned Movement.

SUGGESTED READINGS;

Flaming, D.F.	: The Cold war and its origin
Hays, C.J.	: Contemporary Europe since 1871.
Fisher, H.A.L.	: History of Europe
Martell, J.	: The 20th Century world.
Musmar, M. S.	; Hitler , Mussolini.
Rajan, M.S.	: The Non-Align Movement and the UN.
Thomson, D.	: World History from 1914 — 1950.
Langer, W.L.	: European Alliances and Alignments.

: Diplomacy of Imperialism.



SEMESTER — IV: SYLLABUS

PAPER — XVIII : HISTORY OF MODERN EAST ASIA (JAPAN, 1850 — 1950) UNIT — I :

Early history — Western contacts — The rise of Tokugawa Shogunate — Perry Mission to Japan — The opening of Japan — End of Shogunate — Meiji Restoration — The political, economic, social and military transformation.

UNIT — II :

Japan expansion policy — Relation with Korea - Treaty of Kanghwa — Treaty of Shimonosaki — Triple Intervention — Anglo-Japanese Alliance of 1902 — Russo-Japanese war 1904-05 — Treaty of Portsmouth — Japan imperialism-war diplomacy — Twenty-One Demands — Treaty of 1915 — Results and impact.

UNIT — III;

Japan at conference — Japan and the League — Washington conference — U.S. Japan Relations — Economic change in Japan — Failure of party system in Japan -New order in Japan — Japan between the two world wars.

UNIT — IV :

Sino-Japanese relations Manchurian Crisis — Second Sino-Japanese war — Causes responsible for the failure of Japan — De-militarisation and Disarmament — Democratization — New constitution — Japan's relation with other countries.

SUGGESTED READINGS:

- | | |
|-------------------------|---|
| Ahmed. L.L. | : A Comprehensive History of The Far East. |
| Clyde. P.H. | : The Far East — The History of the Impact of the west on Eastern Asia. |
| Shiv Kumar and Jain. S. | |
| Sing.A.K. | : History of modern Japan |
| Vinacle. H.M. | |



: History of Japan in Modern Times.

: A History of the Far East in Modern Times.



SEMESTER-IV SYLLABUS

PAPER XIX: SOCIAL, ECONOMIC AND CULTURAL HISTORY OF VIJAYANAGARA EMPIRE

Unit-I : Administration under Vijayanara Empire

- a) The King and His Ministers- Central and the Provincial administration - local administration.

The Police and the Military administration- Judiciary

Unit-II : Society and Religion under Vijayanagaras

- a) Religion- Hinduism-Jainism-Buddhism-Christianity-Islam- Religious life of people - Festivals-spread of Viravaism-worship of village deities
- b) Social life-Social Institutions — Status of women —Court life- Devadasi system- custom of sati-Games and Amusements

Unit-III: Economy under Vijayanagaras

- a) Methods of agriculture- Systems of land tenure — Irrigation system- Irrigation tanks -taxation —economic prosperity- contribution to Rayalaseema
- b) Trade and commerce — guilds - Maritime trade — Trade and commerce relations with other countries —communications and transport

Unit-IV : Literature and literary development

- a) Court poets - Astadiggajas and the other poets- patronization of Telugu literature
- b) Literary development — Telugu, Kannada and Tamil

Unit-V : Art and architecture under Vijayanagara rulers

- a) Architecture —Sculpture —Painting- contribution to Rayalaseema region
- b) Growth of Art and Art forms — Hindu Monuments-Indo Sarsanic Architecture and its influence

References

SK Iyyangar	Sources of Vijayanagara History
KAN Sastry	Further Sources of Vijayanagara History
TV Mahalingam	Administrative and social life under Vijayanagara Vol. II
Longhurst	Hampi Ruins
BA Saletore	Social and Political life in the Vijayanagara Empire Vol.1-11

Burton Stein	The Vijayanagara
K Satyanarayana	Andhra History and Culture Vol.11
AK Sherwani	History of the Deccan Vol.', II, III
T.V.Mahalingam	Administrative&Social Life under Vijayanagar ('&M Vols.)
M.H.Rama Sarma	The History of Vijayanagara Empire Vol-1&11
K.A.Neeiakanta Sastry & Venkataramanaiah:	Furthur Sources of Vijayanagara History III Vols.



SEMESTER — IV : SYLLABUS (OPTIONAL)

PAPER — XX : (A) HISTORY OF TOURISM AND MANAGEMENT

UNIT — I : Management in Tourism — Understanding Entrepreneurship. a).

Management — Concept and Functions.

b). Entrepreneurship — Corporate Forms in Tourism.

c). Management issues in Tourism.

UNIT — II ; Tourism Development — Product and Operations.

a). Tourists sites in India.

b). Hill Stations in India.

c). Pilgrimage, Festivals, Ethnic Tourism.

d). Crafts and folk Art and Cultures.

UNIT — III; Tourism Development in Andhra Pradesh.

a). Festivals in Andhra — Tribal cultures — a cultural Interaction.

b). Hill Resorts, Caves, Monuments and Museums.

c). living Culture, Performing Arts and Folk Culture.

d). Tourism policy and planning in A.P. — Infrastructural development — Tourism development — A Cultural construction abroad

UNIT- IV: Tourism promotion and its impact in A.P.

a). Tourist operators — Travel agencies — Guides and Escorts — Tourism information — Public relation — Tourists accommodations.

b). Tourism — its impact on the economic life of the people.

c), Social, environmental and political impact on Tourism.

d). Tourism promotion — role of media.

SUGGESTED READINGS;

Chris Cooper & Fletcher Wahab, S.

Harle, J.C.

Joan Baker, Well James, W. Morrison

Edward, D. Mills Pierce, Douglas

Bhatia, A.K.

: Tourism, Principles
and Practices :
Tourism Marketing

: The Complete Traveler

: Travel Agent and Tourism

: Design for holidays and Tourism.

: Tourism Today, The Geographil Analysis

: Tourism, Principles

: The Art & Architecture of the Indian Sub-
continent.



SEMESTER — IV : SYLLABUS (OPTIONAL)

PAPER - XX ; (B) . HISTORY OF INDIAN ARCHAEOLOGY

UNIT — I : Paleography:

Origin and antiquity of writing in India

Indus script — Brahmi script - kharoshti script.

Derivation of North and South Indian Scripts from Brahmi.

UNIT — II; Epigraphy:

Definition — nature — scope — value of Epigraphy.

Importance of Epigraphy to the Knowledge of Indian History.

Material and content of Inscriptions.

Authenticity of Inscriptions.

UNIT — III; Numismatics:

Antiquity of coinage in India - Terminology — contributions to Political Administrative, Economic and Religious history of India.

UNIT — IV : Some Important Coin series.

Punch marked coins — significance of their symbols, date etc.

Indo-Greek coins — Kushan coins — Satavahana coins — Gupta coins — Vijayanagara coins — Sultan and Moghul coins.

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SUGGESED READINGS;

C. Sivarama Murthy	: Indian Epigraphy and South Indian Inscriptions
D.C. Sircar	:Indian Epigraphy.
K.A. Dani	: Indian Paleography
P.L. Gupta	
C.J. Brown	: Indian Coins
E.J. Rapson	: Coins of India.
	: Coins of India.



SEMESTER — IV: SYLLABUS (OPTIONAL) PAPER - XX:

(C) HISTORY OF MARGINALISED GROUPS IN INDIA

- Unit I** The concept and structures of inequality — Class, Caste and Power —
Transformation of class structure in contemporary India.
- Unit II** **a)** Scheduled caste in India - Untouchability — Educational, Economical, political
and social disabilities.
- b)** Scheduled Tribes in India- Socio-cultural and Economic disparities - Tribal Unrest
and Tribal movements.
- Legislative measures for the development of SC's and ST are in Andhra
Pradesh. Social change and their Empowerment.
- Unit III** Anti Caste Movements in India from ancient to Contemporary times- Anti
caste ideology- Subaltern Saint poets, Kabir, Vemana, Ravidas, Chokkamela etc
- Unit IV** Backward classes in India — Identity and movements for Social Justice -
Problems of Backward classes - Policies and programmes for the development of
BC's- Bahujan concept and its influence on society.
- Unit V** Women-Status of women through ages with special reference to India-
Women in modern India and her struggle for existence - Gender
discrimination and domestic violence —Women and Human Rights.
- Minorities** -Concept of minorities — Racial, Religious, Linguistic and ethnic
minorities in India - Problems of minorities in India - Policies and programmes of
the state — Allegations, the myth of Muslim appeasement-Minority educational
institutions- Contradictions and paradoxes.

Suggested Readings

•

Gail Omvedt

Roy AK

Rao MSA (ed)

Keer, Dhanunjay Ajaraiah VS Kalendu Pauline Mahapatra LK Mathur ML Boserup Easter

Dalits and the Democratic Revolution New Dalit Revolution

Social Movements in India

Mahatma Jyoti Rao Pule

The Caste Movement in India

Caste in Contemporary India

Social Movements among Tribes in India Encyclopedia of Backward castes Women role in Economic Development

