

English

GENERAL ENGLISH SYLLABUS III

KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS) KURNOOL.

FIRST YEAR ENGLISH FOR B.A/B.Com./B.Sc. COURSES UNDER CBCS

Syllabus with effect from 2016-2017

SEMESTER –III

UNIT - I PROSE

1. M.K.Gandhi- Shyness My Shield(from The Story Of My Experiments With Truth)
2. Stephen Leacock – The Conjuror`s Revenge

UNIT - II POETRY

- 1.Gabriel Okara – Once Upon A Time
- 2.Seamus Heaney - Digging

UNIT - III SHORT STORY

- 1.O.Henry- The Last Leaf
- 2.Shashi Deshpande – The Beloved Charioteer

UNIT - IV ONE ACT PLAY

1. Gurajada Appa Rao- Kanyasulkam,translated by C. Vijaya Sree & T. Vijaya Kumar (Acts I&II)

UNIT- V LANGUAGE ACTIVITY

1.Classroom and Laboratory Activities

I) JAM sessions

II) Reporting for the media

III) Expansion of an idea (Proverbs)

Classroom Activity

i Note - making

ii Report writing

iii Letter writing

Telugu

కె.వి.ఆర్. ప్రభుత్వ మహిళా డిగ్రీ కళాశాల (స్వ.ప్ర),కర్నూలు
పార్ట్ - (వి) తెలుగు పాఠ్యాంశాలు (2016- 17)
మూడవ సెమిస్టర్ - పేపరు - 2
ద్వితీయ భాష - సామాన్య తెలుగు పాఠ్యా ప్రణాళిక

1. పద్య భాగము

ఎ) నన్నయ -- వామనాచారము

వి) మొల్ల హనుమత్సందేశము

2. అధునిక కవిత్వం

1. హరిజన శతకం - కుసుమ భర్తృన్న

2. పెన్నెటి పాట - విద్యాన విశ్వం

3. విప్లవ స్వప్నం - శ్రీ శ్రీ

4. అర్థ గీతం - తిలక

3. గద్య భాగం

1. తెలుగు భాష - అచార్య గుజ్జర్లమూడి కృపాచారి

2. వ్యక్తిత్వ విశాసం - అచార్య రాచపాళెం చంద్రశేఖర

4. వ్యాకరణము

అలంకారములు-- ఉపమాఅలంకారము,రూపకాలంకారము,అర్థాంతరాన్వయాఅలంకారము,
దృష్టాంత అలంకారము, అతిశయోక్తి అలంకారము.

5. తేజా రచన

కె.వి.ఆర్. ప్రభుత్వ మహిళా డిగ్రీ కళాశాల (స్వ.ప్ర),కర్నూలు

పార్ట్-2 (బి) తెలుగు పాఠ్యాంశాలు (2016 17)

మూడవ సెమిస్టర్ - పేజరు - 2

ప్రశ్నీయ భావ - సామాన్య తెలుగు-అంతర్గత ప్రశ్న పత్రము

1.ఈ శ్రింది పద్యానికి నందర్న సహిత ప్రతిపదార్థ తాత్పర్యమును వ్రాయుము.

1. జంతిం లై పటున్ డింత యై మఱియు డా నింతై పభోపిథిపై
నంతై తోయడ మండలాగ్రమున కల్లం లై ప్రభారాళిపై
నంతై చంద్రుని కంత యై శ్రువునిపై నంతై మహర్నాటిపై
నంతై సత్కవచోన్నతుం డగుచు బ్రహ్మాండంత నంవర్తి యై

2. ఈ శ్రింది ప్రశ్నలలో ఒక డానికి సమాధానం వ్రాయుము

పారిజన శతకం సారంశమును తెల్పుము

2. విద్యాన్ విశ్వం కవితా రీతులను వివరించుము

3. ఈ శ్రింది అలంకారాలను గురించి వ్రాయుము

ఉపమాంకారము 2. స్వభావోక్తి అలంకారము

కె.వి.ఆర్. ప్రభుత్వ మహిళా డిగ్రీ కళాశాల (స్వ.ప్ర),కర్నూలు
పార్ట్ - 2(వి) తెలుగు పాఠ్యాంశాలు (2016 17)
నాల్గవ సెమిస్టర్ - పేవరు - 2
ద్వితీయ భాష - సామాన్య తెలుగు- పాఠ్యా ప్రణాళిక

1. ప్రాచీన కవిత్వం

- | | | |
|----------------|---|--------------------|
| 1. నంది తిమ్మన | - | నత్త భామ స్వాంతనము |
| 2. విశ్వనాథ | - | వెంగీ క్షేత్రము |

2. గద్యభాగము

- | | | |
|----------------------|---|-----------------------|
| 1. అచార్య చంద్రశేఖర్ | - | మాధ్యమాలకు రాయడం |
| 2. పి.వి. సుబ్బారావు | - | అచివ్యక్తి నైపుణ్యాలు |

3. నాటకము
హంసపత్నవి

4. సాధారణ వ్యాసాలు

5. భండస్సు

కె.వి.ఆర్. ప్రభుత్వ మహిళా డిగ్రీ కళాశాల (స్వ.ప్ర),కర్నూలు
పార్ట్ - 2(ఏ) తెలుగు పాఠ్యాంశాలు (2016 17)
నాల్గవ సెమిస్టర్ - పేపరు - 2
ద్వితీయ భాష - సామాన్య తెలుగు- అంతర్గత ప్రశ్న పత్రము

1. ఈ శ్రింధి వద్యానికి నందర్న నహిత ప్రతివదార్థ తాత్పర్యమును వ్రాయుము.

అన విని వ్రేటుపడ్డ యుగ గాంగనయుం బతె నెయి వోయ భ
గ్గున దరికొన్న భీషణ మాతాళన కీల యనంగ తేచి, హెచ్చిన
కనుబోయి కొంపు తన చెక్కుల గుంకుమ పత్ర భంగ నంజనిత
నవీన కాంతి వెదవల్లగ గడ్డద భిన్న కంఠి యై!

2. ఈ శ్రింధి ప్రశ్నలలో ఒక దానికి సముధానం వ్రాయుము.

1. పుత్రికలకు రాయడంలో పాఠించవలసిన జాగ్రత్తలు ఏవి ?
2. శ్రవణ నైపుణ్య ప్రాధాన్యతను తెల్పుము?

3. ఈ శ్రింధి వాటిని గురించి వ్రాయుము.

1. ఉత్పలమాల
2. చంపకమాల

Hindi

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

Semister - III Syllabus - 2016 - 2017

UNIT - I

1. प्राचीन काव्य : 1. कबीरदास के दोरे (1 to 10)
2. सूरदास के पद (बाललीला वर्णन)
3. तुलसीदास के दोरे (1 to 8)
4. मीराबाई (1 to 2)

UNIT - II

2. हिन्दी साहित्य का इतिहास : 1. भक्तिकाल
2. ज्ञानाश्रयी शाखा
3. कृष्ण भक्ति शाखा

UNIT - III

3. प्रयोजन मूलक हिन्दी : 1. राजभाषा हिन्दी
2. राष्ट्रभाषा हिन्दी
3. हिन्दी सेवा संस्था है

UNIT - IV

4. निबंध : 1. विद्यार्थी और अनुशासन
2. विज्ञान अभिशाप था वरदान
3. पर्यावरण और प्रदूषण
4. दूरदर्शन

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

Semister - IV Syllabus - 2016 - 2017

UNIT - I

1. आधुनिक काव्य :
1. मातृभाषा के प्रति (भारतेन्दु हरिश्चन्द्र)
 2. तोड़ती पत्थर (निराला)
 3. ठूँठ (बैरागी चौधरी)
 4. मादा भ्रूण - (रजनी तिलक)

UNIT - II

2. हिन्दी साहित्य का इतिहास : 1. छायावाद
2. हिन्दी कहानी का उद्भव और विकास

UNIT - III

3. Translation : अनुवाद

UNIT - IV

- #### 4. Comprehension :

Urdu

KVR Govt. College (w) Autonomous Kurnool.

Syllabus for (B.A./ B.Com. / B.Sc.) U.G. 2016-2017

Under Common Core Scheme in Urdu – CBCS

As per Andhra Pradesh State Council of Higher Education

Second Language – Urdu Paper – III

SEMESTER - III

Prescribed Book: MUNTAKHAB ADAB – II

UNIT – I Dastan – Mir Amman– Bagh-o-Bahar-Aghaz Khisse ka

UNIT – II Khutoote Ghalib –
Banaam Mir Mehdi Majrooh
Aur Hatim Ali Mehar

UNIT – III Masnavi – Ibne Nishati – Phoolbun – Aaghaze Dastan -
21 Sher

UNIT – IV Marsiya – Meer Anees – Jab Qata ki masafate shab
aaftab ne (Ibtidayi 6 band musaddas ke)

UNIT – V Rubaiyaat
1. Amjad Hyderabadadi – ‘ Har cheez ka khona bhi ‘
2. Saghar Jayyedi –‘ Tareef ki meezaan pe tul jate hain

History



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

B. A. HISTORY

II Year B. A. Programme (UG) Courses — Under CBCS

Semester — III

Paper — III:

LATE MEDIEVAL & COLONIAL HISTORY OF INDIA (1526 to 1857 A. D.)

(History and Culture of India (1526-1857))

UNIT- I	India from 1526 to 1707 A. D.: Emergence of Mughal Empire - Sources, Conditions in India on the eve of Babur's invasion, Brief Summary of Mughal Polity — Sher Shah & Sur Interregnum — Expansion & Consolidation of Mughal Empire — Rise of Marathas & Peshwas.
UNIT- II	Administration, Economy, Society and Cultural Developments under the Mughals Disintegration of Mughal Empire.
UNIT- III	India under Colonial Hegemony : Beginning of European Settlements — Anglo-French Struggle — Policies of Expansion - Subsidiary Alliance & Doctrine of Lapse - Consolidation of British Empire in India up to 1857 A. D.
UNIT- IV	Economic Policies of the British (1757-1857): Land Revenue Settlements — Commercialization of Agriculture — Impact of Industrial Revolution on Indian Industry ; Administration of the Company — Regulating Charter Acts; Cultural & Social Policies: Humanitarian Measures & Spread of Modern Education
UNIT- V	Anti-Colonial Upsurge — Peasant & Tribal Revolts - 1857 Revolt — Causes, Nature & Consequences

References:

1	Bipan Chandra, Modern India
2	Bipan Chandra, Rise and Growth of Economic Nationalism in India
3	C.A. Bayly, Indian Society and the Making of the British Empire
4	Harbans Mukhia, The Mughals of India
5	Irfan Habib, Medieval India: The study of a Civilization
6	L.P. Sharma, The Mughal Empire
7	R.P. Dutt, India Today
8	Sathis Chandra, Essays on Medieval Indian History
9	Tripathi R.P., The Rise & Fall of the Mughal Empire

Project Work:

Students should be asked to identify structures belonging to Mughal period or colonial period and present status.

Make students to create a collage or collection of images related to a topic. Images can be hand drawn, printed, or clipped from a magazine or newspaper



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

B.A. History

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

SEMESTER- IV : SYLLABUS

PAPER - IV : SOCIAL REFORM MOVEMENT & FREEDOM STRUGGLE (1820 TO 1947 A.D.) HISTORY AND CULTURE OF INDIA (1857-1947).

UNIT- I	Social. Religious & Self – Respect Movements, Social & Cultural Awakening – Brahma Samaj, Arya Samaj, Theosophical Society, Rama Krishna Mission, Aligarh Movement – Emancipation of Women – Struggle Against Caste: Jyotiba Phule, Narayana Guru, Periyar, Dr. B.R. Ambedkar.
UNIT- II	Growth of Nationalism in the 2 nd Half of 19 th Century – Impact of British Colonial Policies under Viceroy's Rule and the Genesis of Freedom Movement – Birth of Indian National Congress.
UNIT- III	Freedom Struggle from 1885 - 1920 A.D Moderate Phase – Partition of Bengal – Emergence of Militant Nationalism – Swadeshi & Boycott Movement – Home Rule Movement
UNIT- IV	Freedom Struggle from 1920 to 1947 : Gandhiji's Role in the National Movement Revolutionary – Subhas Chandra Bose.
UNIT- V	Muslim League & the Growth of Communalism – Partition of India – Advent of Freedom – Integration of Princely States into Indian Union – Sardar Vallabhai Patel.

References :

1	Anil Seal, Emergence of Indian Nationalism
2	Banerjee, Sekhar, From Plassey to Partition
3	Bayly, C.A., Indian Society and Making of the British Empire
4	Brown, Judith : Gandhi's Rise to Power
5	Chandra, Bipan, et. al India's Struggle for Independence
6	Chatterjee, Jaya, Bengal Divided : Hindu Communalism and Partition 1932-1947
7	Desai, A.R. Social Background to Indian Nationalism
8	Dutt. R.P. India Today
9	Joshi, P.C. Rammohun and the Forces of Modernization in India
10	Sarkar Sumit Modern India 1885 to 1947
11	Stokes, Eric, Peasants and the Raj
12	R.C.Majumdar, The Struggle for Freedom, Bharatiya Vidhya Bhavan Series

Project Works :

As part of Internal Assessment, Project Work may be given on regional or local history related to culture, economy, struggles land relations, cultural institutions and their influence on the society.

They can also be asked to create a play centered on any event in social reform movement or freedom struggle.

Economics

KVR GOVT. COLLEGE FOR WOMEN (A), KURNOOL.

B.A Economics

II Year B.A. Programme (UG) Courses-Under CBCS

Academic Year 2016-17

Semester-III

Paper-III (Core Paper)

Macro Economics-National Income, Employment & Money

Module-1

Meaning, Definition of Macro Economics-Importance of Macro Economics-Difference between Micro & Macro Economics-Paradox of Macro Economics-Limitations

Module-2

National Income-Definitions, Concepts of National Income-Measurement of National Income-Circular flow of income in Two, Three and Four Sector Economy.

Module-3

Classical Theory of Employment-Say's Law of Markets.

Module-4

Keynesian Theory of Employment-Consumption Function-Investment Function-Marginal Efficiency of Capital(MEC)-Concepts of Multiplier and Accelerator.

Module-5

Meaning and Function of Money-Classification of Money-Gresham's Law-RBI Classification of Money. Theories of Money-Fisher's Quantity Theory of Money Cambridge approach(Marshall, Pigou, Robertson & Keynes).

REFERENCES:

1. G.Ackley-"Macro Economics Theory and Policy",Collier Macmillan,1978.
2. E.Shapiro-"Macro Economic Analysis",Galgotia Publications,1999.
3. Central Statistical Organisations-"National Accounts Statistics".
4. R.Dornbush,S.Fisher and R. Startz-"Macro Economics",Tata Mc.Graw Hill,9/e,2004.
5. M.L.Seth-"Macro Economics",Lakshmi Narayana Agarwal,2015.
6. K.P.M. Sundaram-"Money,Banking & International Trade",Sultan Chand,2010.
7. Dillard,D-"The Economics of John Maynard Keynes",Crossby Lockwood & Sons.
8. M.N.Mishra & S.B. Mishra-"Insurance Principles & Practice" S.Chand 2012.
9. Bharathi V.Pathak "The Indian Financial System Markets.Institutions on Services".Pearson 2008.
10. Telugu Academy Publications.

KVR GOVT. COLLEGE FOR WOMEN (A),KURNOOL.

B.A Economics

II Year B.A. Programme (UG) Courses-Under CBCS

Academic Year 2016-17

Semester-IV

Paper-IV (Core Paper)

Banking and International Trade

Module-1

Trade Cycles-Meaning & Definition-Phases of a Trade Cycle-Inflation-Definition-Types of Inflation-Causes and Effects of Inflation Measures to Control Inflation.

Module-2

Banking: Meaning & Definition-Function of Commercial Banks-Concept of Credit creation-Functions of RBI-Recent developments in banking sectors.

Module 3

Non-Bank Financial Institutions-Types of NBFIs-Factors contributing to the Growth of NBFIs-Money market-Defects of Indian money market.

Module-4

Concepts of Shares-Debentures-Stock Market-Functions-Primary & Secondary Markets-SEBI-Insurance-Life Insurance and General Insurance.

Module-5

Macro Economic Policy-Fiscal, Monetary and Exchange rate policies
Objectives and Significance-Importance of International Trade-Regional and International Trade-Defining Balance of Trade and Balance of Payment.

REFERENCES:

1. G.Ackley-"Macro Economics Theory and Policy",Collier Macmillan,1978.
2. E.Shapiro-"Macro Economic Analysis",Galgotia Publications,1999.
3. Central Statistical Organisations-"National Accounts Statistics".
4. R.Dornbush,S.Fisher and R. Startz-"Macro Economics",Tata Mc.Graw Hill,9/e,2004.
5. M.L.Seth-"Macro Economics",Lakshmi Narayana Agarwal,2015.
6. K.P.M. Sundaram-"Money,Banking & International Trade",Sultan Chand,2010.
7. Dillard,D-"The Economics of John Maynard Keynes",Crossby Lockwood & Sons.
8. M.N.Mishra & S.B. Mishra-"Insurance Principles & Practice" S.Chand 2012.
9. Bharathi V.Pathak "The Indian Financial System Markets.Institutions on Services".Pearson 2008.
10. D.M. Mithani & G.K. Murthy-"Business Economics",Himalaya Publishing House,2015.
11. M.L.Jhingan-Economic Development-Vikas,2012.
12. G.Omkarnath-Economics-A Primer for India-Orient Blackswan,2012.
13. Agarwal,V.(2010)Macro Economics: Theory and Policy Dorling Kindersley(India) Pvt.Ltd.,New Delhi.
14. Ahuja,H.L.(2012)Macro Economics,Theory and Policy,S.Chand and Company Ltd.,New Delhi.

Political Science

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

II YEAR B.A. Political Science

CBCS: SYLLABUS - SEMESTER WISE (2016-17)

Semester-III Paper-III

As per Andhra Pradesh State Council of Higher Education

INDIAN CONSTITUTION (భారత రాజ్యాంగం)

Unit-1: The Making of the Constitution (రాజ్యాంగం తయారైన విధానం)

1. The Ideological legacy of the Indian National Movement on the Constituent Assembly (రాజ్యాంగ పరిషత్తు పై - భారత జాతీయోద్యమం సైద్ధాంతిక వారసత్వం ప్రభావం)
2. The Nature and Composition of the Constituent Assembly రాజ్యాంగ పరిషత్తు నిర్మాణం మరియు స్వభావం

Unit-2: Philosophical Premises of the Indian Constitution (భారత రాజ్యాంగం సైద్ధాంతిక ఘనతలు)

1. Preamble: The underlying values of the Indian Constitution రాజ్యాంగ ప్రవచన మరియు భారత రాజ్యాంగంలోని అంతర్లీన విలువలు
2. Salient features of the Constitution of India (భారత రాజ్యాంగంలోని విశిష్టమైన లక్షణాలు)

Unit-3: Fundamental rights and Directive principles of State Policy (ప్రాథమిక హక్కులు, మరియు అత్యవసర సూత్రాలు)

1. Individual and Collective Rights: Limitations on the fundamental Rights (ప్రాయుక్త మరియు సామూహిక హక్కులు : ప్రాథమిక హక్కులపై పరిమితులు)
2. Judicial Interpretation of Fundamental Rights (ప్రాథమిక హక్కులు న్యాయస్థానాల వివరణ)
3. The doctrine of 'Basic Structure' of the Constitution: Kesavananda Bharathi Case (రాజ్యాంగ మౌలిక స్వరూప భావన-- కేశవానంద భారతి కేసు)

Unit-4: Indian Federalism (భారత సమాఖ్య వ్యవస్థ)

1. Unitary and Federal features in the Indian Constitution భారత రాజ్యాంగంలోని ఏక కేంద్ర మరియు సమాఖ్య లక్షణములు
2. Tension Areas between the Union and State Governments (కేంద్ర రాష్ట్రాల మధ్య ఉద్భవించే కు అవకాశం ఉన్న అంశాలు) Legislative, Administrative and Financial Spheres (కానూని సంబంధ, పరిపాలనపరమైన, ఆర్థిక సంబంధ అంశాలు)

Unit_5 Working of the Indian Constitution (భారత రాజ్యాంగం పనిచేయు విధానము)

1. The Values of the Indian Constitution and Ushering of Social Revolution in India (సామాజిక విప్లవం తీసుకొని రావడంలో భారత రాజ్యాంగంలోని విలువలు)
2. The causes for the Ascendancy of the Executive over legislature and Judiciary; Major Controversies regarding the Amendments to the Constitution (కానూని శాఖ మరియు న్యాయవ్యవస్థలపై కార్యనిర్వాహక వర్గం ఆధిపత్యం పెరగడానికి కారణాలు; దానికి సంబంధించిన రాజ్యాంగ సవరణలపై ముఖ్యమైన వివాదాలు)
3. Nature and Role of Higher Judiciary in India; Recent Debates on the mode of appointment of Judges (భారతదేశంలో ఉన్నత న్యాయవ్యవస్థ యొక్క స్వభావం మరియు దాని పాత్ర--; న్యాయమూర్తుల నియామక పద్ధతి పై ఇటీవల సెలకోన్న వివాదాలపై చర్చ)

Reference books:

1. Granville Austin (1972) the Indian Constitution, Conventions of a Nation Oxford university Press, New Delhi.
2. MadhavKhosla (2012) the Indian Constitution, oxford university press, New Delhi
3. Granville Austin (1999) Working a Democratic Constitution; A History of the Indian Experiment, Oxford University Press, New Delhi

4. Zoya Hasan, Siddharth E and Sudhanshu K (Eds) 2002

- India's Living Constitution, Permanent black, New Delhi
5. RaviLipadkar (1998) the Indian Supreme Court and Politics Rastriya book co, Lucknow

CBCS: SYLLABUS - SEMESTER WISE (2015N-17)
SECOND YEAR: SEMESTER - IV
B.A. POLITICAL SCIENCE
PAPER-IV (CORE): INDIAN POLITICAL PROCESS

Unit-1: Approaches to Study the Political Processes in India (భారత దేశం లో రాజకీయ ప్రక్రియలు అధ్యయన దృక్పథాలు)

1. Theory of Modernization: Transition from Tradition to Modernity (ఆధునికీకరణ సిద్ధాంతాలు: సాంప్రదాయకత నుండి ఆధునికీకరణ వైపు మార్పు)
2. Marxian Approach: Transition from pre-capitalism to capitalism (మార్క్సిస్టు అధ్యయన దృక్పథం : పూర్వ పెట్టుబడిదారీ వ్యవస్థ నుండి పెట్టుబడిదారీ వ్యవస్థ వరకు)

Unit-2: Social Structure and Democratic Process (సాంఘిక నిర్మాణాలు మరియు రాజకీయ ప్రక్రియలు)

1. Transition of Caste System: From Hierarchy to Identity: Role of Agency (కుల వ్యవస్థ: వివిధ హోదాల వ్యవస్థ నుండి గుర్తింపు కోసం ప్రయత్నించే వ్యవస్థ దిశగా జరిగే మార్పు విషయం లో - ఏజెన్సీల పాత్ర)
2. Politicisation of Intermediate and Dalit Caste Communities (మధ్యంతర మరియు దళిత కులాల, సమాజాల రాజకీయాలు)
3. Evolution of Modernity in India (భారత దేశం లో ఆధునికత పరిణామం)

Unit-3: Religion and Politics (మతం మరియు రాజకీయాలు)

1. Competing Communalisms: Majoritarian and Minoritarian (మతతత్వం లో పోటీ తత్వం మజారిదీ వాదం మరియు మైనారిటీ వాదం)
2. Debates on Secularism; Role of the State towards religion (లోకహదం పై చర్చ : మతం విషయంలో రాజ్యం పాత్ర)

Unit-4: Party and Electoral Processes in India (భారతదేశంలో రాజకీయ పార్టీలు మరియు ఎన్నికల ప్రక్రియ)

1. Electoral Trends of the lok Sabha from 1952 to 2014: From the One Party Congress System to Multi Party Coalitions (భారతదేశంలో లోక్ సభ ఎన్నికల తరుణిమ్ములు 1952 నుండి 2014 వరకు - ఏక పార్టీ వ్యవస్థ నుండి బహు పార్టీ సులేర్గ రాజకీయాల వరకు)
2. Determinants of Voting Behavior in India; Caste, Class, Patronage, Money etc. (కీడుర్గ ప్రవర్తనను ప్రభావితం చేసే కారకాలు - కులం, వర్గం, డబ్బు మొదలగునవి)
3. Evolution of Party System in India: the Ideology and Social bases of major Political Parties: INC, BJP, CPM, DMK, BSP, TDP (భారతదేశంలో రాజకీయ పార్టీ వ్యవస్థ పరిణామం, వివిధ రాజకీయ పార్టీ సిద్ధాంతాలు , సమాజం లోని వాటి పునాదులు - భారత జాతీయ కాంగ్రెస్, భారతీయ జనతా పార్టీ, CPM, DMK, BSP, తిలుగు దేశం పార్టీ)

Reference books:

1. Chandheke N and Priyadarshini P (Eds) (2009) Contemporary India Economy, society, politics, Pearson, New Delhi.
2. Varshik A and Bhargava R (Eds) (2010) Understanding Contemporary India Critical perspectives orient black swan New Delhi.
3. Jajal N G and Mehta P (Eds) (2010) Oxford Companion to Indian Politics Oxford University Press, New Delhi.
4. Kohliatal and Prema Singh (Ed) (2013) Routledge Hand book of Indian Politics Routledge, New York.
5. Jaffrelot C (2003) India's Silent Revolution: The Rise of the Lower Caste in North India, C Hurst, London.
6. Starely A. Kocharek, Robert L. Hardgrave, India Government and Politics in a Developing Nation, Boston, Wadsworth Publishing, 2008N.
7. Rajeev Bhargava (Ed) Secularism and its Critics (1998), Delhi, UP.

INFORMATION & COMMUNICATION TECHNOLOGY –2 (ICT-2)

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

Internet Fundamentals and Web Tools

Common for BA / BCom / B Sc / BBA Programmes

III Semester

(30 Hours of Teaching Learning including Lab)

Unit-I :

Fundamentals of Internet : Networking Concepts, Data Communication – Types of Networking, Internet and its Services, Internet Addressing – Internet Applications – Computer Viruses and its types – Browser –Types of Browsers.

Unit-II:

Internet applications: Using Internet Explorer, Standard Internet Explorer Buttons, Entering a Web Site Address, Searching the Internet – Introduction to Social Networking: twitter, tumblr, LinkedIn, facebook, flickr, skype, yelp, vimeo, yahoo!, google+, youtube, WhatsApp, etc.

Unit-III :

E-mail :Definition of E-mail - Advantages and Disadvantages – UserIds, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management,Email Inner Workings.

Unit IV:

WWW- Web Applications, Web Terminologies, Web Browsers,URL – Components of URL, Searching WWW – Search Engines and Examples

Unit-III :

Basic HTML: Basic HTML – Web Terminology – Structure of a HTML Document – HTML, Head and Body tags – Semantic and Syntactic Tags – HR, Heading, Font, Image and Anchor Tags –Different types of Lists using tags – Table Tags, Image formats – Creation of simple HTML Documents.

Reference Books :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e - by Raymond Greenlaw and Ellen Hepp, Publishers : TMH

COMMUNICATION AND SOFTSKILLS -- II

KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS) KURNOOL

CSS—II FOUNDATION COURSE -- 6

SEMSTER -- III SYLLABUS w.e.f. 2016-2017

1. Pronunciation -- I

Introduction to phonetics

Consonants

Vowels

II. Pronunciation -- II

Syllable

Word Stress

Accent and Rhythm in Connected Speech

III Speaking Skills -- I

Conversation Skills (language functions)

Greetings and Introductions

Asking for /giving instructions and directions

Interview Skills

Presentation Skills

Public Speaking

IV Speaking Skills – II

Role-Play, Debate, Group-Discussion.

V Writing Skills

Spelling, Punctuation, Information Transfer, Tables, Bar – diagrams, Line-graphs,

Pie-diagrams, Flow-Charts, -Diagrams, Pictures

.....

ENTREPRENEURSHIP

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

Syllabus, For all Degree Programmes.

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

Semester – IV

(Total 30 Hrs)

Unit-I: Entrepreneurship: Entrepreneur characteristics – Classification of Entrepreneurships – Incorporation of Business – Forms of Business organizations – Role of Entrepreneurship in economic development – Start-ups.

Unit-II: Idea Generation and Opportunity Assessment: Ideas in Entrepreneurships – Sources of New Ideas – Techniques for generating ideas – Opportunity Recognition – Steps in tapping opportunities.

Unit-III: Project Formulation and Appraisal : Preparation of Project Report – Content; Guidelines for Report preparation – Project Appraisal techniques – economic – Steps Analysis; Financial Analysis; Market Analysis; Technical Feasibility.

Unit-iv: Institutions Supporting Small Business Enterprises: Central level Institutions: NABARD; SIDBI, NIC, KVIC; SIDIO; NSIC Ltd; etc. – state level Institutions – DICs- SFC- SSIDC- Other financial assistance.

Unit-V: Government Policy and Taxation Benefits: Government Policy for SSIs- tax Incentives and Concessions – Non-tax Concessions – Rehabilitation and Investment Allowances.

Reference Books:

1. Arya Kumar, Entrepreneurship, Pearson, Delhi, 2012.
2. Poornima M.CH., Entrepreneurship Development – Small Business Enterprises, Pearson, Delhi, 2009
3. Michael H. Morris, ET. al., Entrepreneurship and Innovation, Cen gage Learning, New Delhi, 2011
4. Kanishka Bedi, Management and Entrepreneurship, Oxford University Press, Delhi, 2009
5. Anil Kumar, S., ET.al., Entrepreneurship Development, New Age International Publishers, New Delhi, 2011
6. Khanka, SS, Entrepreneurship Development, S. Chand, New Delhi.
7. Peter F. Drucker, Innovation and Entrepreneurship.
8. A.Sahay, M. S. Chhikara, New Vistas of Entrepreneurship: Challenges & Opportunities.

LEADERSHIP EDUCATION

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

Syllabus, For all Degree Programmes.

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

Semester – IV

(Total 30 Hrs)

1. Organisation – Management – Leadership – Meaning and Significance – Different theories – Trait Theory, Blake & Mountain Theory – Other functions of Management.
2. Behavioral Concepts – Individual Behaviour – Perception – Learning – Attitude Formation and Change – Motivation – Theories of Motivation – Personality Development.
3. Interpersonal Behaviour – Communication – Leadership – Influencing Relations – Transactional Analysis.
4. Group Dynamics – Roles – Morale – Conflict – Groups – Inter-Group Behaviour – Inter-Group Collaboration and Conflict Management.
5. Team Building and Management – Developing team resources – Designing team – Participation and Repercussion – Team building activities.

Reference Books:

1. Fred Luthans, “Organizational Behaviour”, Tata McGraw Hill Publishing Co., New Delhi.
2. Robins, Stephen P, “Organisational Behaviour”, 9th Edition, Prentice Hall of India, New Delhi.
3. Koontz and O “Donnell”, Essentials of Management, Tata McGraw Hill Publishing Co., New Delhi, 2000.
4. Keith Davis, “Human Behaviour at Work”, Tata McGraw Hill Publishing Co., New Delhi.
5. Aswathappa, “Organizational Behaviour”, Himalaya Publishing House, Mumbai
6. Stoner Freeman, “Management”, Prentice Hall of India, New Delhi.

ANALYTICAL SKILLS

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

Syllabus, For all Degree Programmes.

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

Semester – IV

(Total 30 Hrs)

UNIT – 1

Data Analysis:- The data given in a Table, Graph, Bar Diagram, Pie Chart, Venn diagram or a passage is to be analyzed and the questions pertaining to the data are to be answered.

UNIT – 2

Sequence and Series:- Analogies of numbers and alphabets completion of blank spaces following the pattern in A:b::C: d relationship odd thing out; Missing number in a sequence or a series.

UNIT - 3

Arithmetic ability:- Algebraic operations BODMAS, Fractions, Divisibility rules, LCM&GCD (HCF).

Date, Time and Arrangement Problems: Calendar Problems, Clock Problems, Blood Relationship.

UNIT - 4

Quantitative aptitude:- Averages, Ratio and proportion, Problems on ages, Time-distance – speed.

UNIT – 5

Business computations:- Percentages, Profit & loss, Partnership, simple compound interest.

Reference Books:

1. Quantitative Aptitude for Competitive Examination by R S Agrawal, S.Chand publications.
2. Quantitative Aptitude and Reasoning by R V Praveen, PHI publishers.
3. Quantitative Aptitude : Numerical Ability (Fully Solved) Objective Questions, Kiran Prakashan, Pratogitaprakasan, Kic X, Kiran Prakashan publishers
4. Quantitative Aptitude for Competitive Examination by Abhijit Guha, Tata Mc Graw hill publications.
5. Old question Paper of the exams conducted by (Wipro, TCS, Infosys, Etc) at their recruitment process, source-Internet.

COMMUNICATION SKILLS AND SOFT SKILLS-3 (CSS -3)

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

COURSE CONTENT(30 hours)

A current axiom is that hard skills will get a person an interview, but soft skills will get that person the job. Unit I of the course is on soft skills, which are absolutely necessary in the global job market. Writing is considered the most difficult of all the skills. Units II to V help the learner improve their writing skills, especially academic/formal writing.

Unit I: Soft Skills

1. Positive Attitude
2. Body Language
3. SWOT/SWOC Analysis
4. Emotional Intelligence
5. Netiquette

Unit II: Paragraph Writing

1. Paragraph Structure
2. Development of Ideas

Unit III: Paraphrasing and Summarizing

1. Elements of Effective Paraphrasing
2. Techniques for Paraphrasing
3. What Makes a Good Summary?
4. Stages of Summarizing

Unit IV: Letter Writing

1. Letter Writing (Formal and Informal)
2. E-correspondence

Unit V:

1. Resume and CV
2. Cover Letter

Advance Urdu

KVR Govt. College (w) Autonomous Kurnool.

Syllabus for B.A. Urdu CBCS 2016-17

As per Andhra Pradesh State Council of Higher Education

Second year Optional Urdu Paper - III

SEMESTER - III

URDU POETRY

Prescribed book : Gowhare Adab by A.P.UrduAcademy

UNIT – I MASNAVI – A portion of Gulzar-e-Naseem

‘Aana tajul mulook ka sehrae tilism se’

UNIT – II GHAZAL – The following Ghazals only:

1. ‘Bas ke dushwar hai har kaam’ by Ghalib

2. ‘Woh adae dilbari ho ke nawae’ by Jigar

3. ‘Jala ke mashale jan hum’ by Majrooh

UNIT – III NAZM

1. ‘Roohe arzi aadam ka isteqbal karti hai’

By Allama Iqbal

2. ‘Sagar ke kinare’ by Maqdoom

UNIT – IV Ghazalgo shora ki sawaneh

1.Ghalib 2.Jigar 3.Majrooh

UNIT – V Nazmgo shora ki sawaneh

1.Allama Iqbal 2. Maqdoom

KVR Govt. College (w) Autonomous Kurnool.
Syllabus for B.A. Urdu CBCS 2016-17
As per Andhra Pradesh State Council of Higher Education
Second year Optional Urdu Paper - IV
SEMESTER - IV
URDU POETRY
Prescribed book : Gowhare Adab by A.P.UrduAcademy

UNIT – I	QASEEDA – Ta’aruf
UNIT – II	QASEEDA – Mohsin Kakori (Selected portion) ‘Simte kashi se chala janibe mathura badal’
UNIT – III	MARSIYA – Ta’aruf
UNIT – IV	MARSIYA – Meer Anees (Selected portion) ‘Namake khwane takallum hai fasahat meri’
UNIT – V	Biography of following poets: 1.Mohsin Kakori 2. Meer Anees

Commerce

KVR Govt. College for Women (A), Kurnool

Department of Commerce

BOS

II B.Com (CA) III SEM

Syllabus for the Academic Year – 2016 -17

DSC 1 C - Corporate Accounting

Objectives: To impart the students Knowledge of the concepts of Corporate Accounting Process in India.

Unit-I:

Accounting for Share Capital – Meaning and Definitions of Share - Issue of Shares at Par, Premium and at Discount - Forfeiture and reissue of Shares - Accounting Treatment. (Theory and Problems).

Unit-II: Issue and Redemption of Debentures - – Meaning and Definitions – Types of Debentures - Issue of Debentures at Par, Premium and at Discount - Redemptions of Debentures . (Theory and Problems)

Unit-III: Valuation of Goodwill – Meaning and Definition - Need and methods - Normal Profit Method, Super Profits Method – Capitalization Method. (Theory and Problems)

Unit –IV:

Valuation of Shares: - Valuation of shares - Need for Valuation - Methods of Valuation - Net assets method, Yield basis method, Fair value method.(Theory and Problems)

UNIT – V:

Company Final Accounts: Preparation of Final Accounts – Adjustments relating to preparation of final accounts – Profit and loss account and balance sheet – Preparation of final accounts using Computers. (Theory and Problems)

Reference Books:

1. Corporate Accounting – Haneef & Mukherji,
2. Corporate Accounting – RL Gupta & Radha swami
3. Corporate Accounting – P.C. Tulsian
4. Advanced Accountancy: Jain and Narang
5. Advanced Accountancy : R.L. Gupta and M.Radhaswamy, S Chand.
6. Advanced Accountancy : Chakraborty
7. Modern Accounting: A. Mukherjee, M. Hanife Volume-II McGraw Hill
8. Accounting standards and Corporate Accounting Practices: T.P. Ghosh Taxman
9. Corporate Accounting: S.N. Maheswari, S.R. Maheswari, Vikas Publishing House.
10. Advanced Accountancy: Arutanandam, Raman, Himalaya Publishing House.
11. Advanced Accounts: M.C. Shukla, T.S. Grewal, S.C. Gupta, S. Chand & Company Ltd.,
12. Management Accounting: Shashi K. Gupta, R.K. Sharma, Kalyani Publishers.

II B.Com (CA) III SEM
Syllabus for the Academic Year – 2016 -17

DSC 2C - Business Statistics

The objective of this paper is to impart knowledge on the application of statistical tools and techniques in business decision-making and interpretation of statistical data.

Unit 1: Introduction to Statistics:

Definition, importance and limitations of statistics - Collection of data - Schedule and questionnaire – Frequency distribution – Tabulation -Diagrammatic and graphic presentation

UNIT – 2: Measures of Central Tendency:

Characteristics of measures of Central Tendency-Types of Averages – Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode.(Theory and Problems)

Unit 3: Measures of dispersion:

Properties of dispersion-Range-Quartile Deviation –Mean Deviation-Standard Deviation-Coefficient of Variation.- .(Theory and Problems)

Unit 4 : Skewness

Meaning and Definitions of Skewness - Meaning and definition of Karl Pearson's and Bowley's Measures of skewness -. .(Theory and Problems)

Unit 5: Measures of Relation:

Meaning and use of correlation – Types of correlation-Karlpearson's correlation coefficient – Spearman's Rank correlation-probable error-Calculation of Correlation. .(Theory and Problems)

Suggested Readings:

- | | |
|--|-------------------------------|
| 1. Business Statistics | Reddy, C.R Deep Publications. |
| 2. Statistics-Problems and Solutions | Kapoor V.K. |
| 3. Fundamentals of Statistics | Elhance.D.N |
| 4. Statistical Methods | Gupta S.P |
| 5. Statistics | Gupta B.N. |
| 6. Fundamentals of Statistics | Gupta S.C |
| 7. Statistics-Theory, Methods and Applications | Sancheti,D.C. &Kapoor V.K |
| 8. Business Statistics | J.K.Sharma |
| 9. Business Statistics | Bharat Jhunhunwala |
| 10. Business Statistics | R.S.Bharadwaj |

DSC 3C - Banking Theory & Practice

Unit-I: Introduction

Meaning & Definition of Bank – Functions of Commercial Banks – Kinds of Banks - Central Banking Vs. Commercial Banking.

Unit-II: Banking Systems

Unit Banking , Branch Banking, Investment Banking- Innovations in banking – E banking - Online and Offshore Banking , Internet Banking - Anywhere Banking - ATMs - RTGS.

Unit-III: Banking Development

Indigenous Banking - Cooperative Banks, Regional Rural banks, SIDBI, NABARD - EXIM Bank.

Unit-IV: Banker and Customer

Meaning and Definition of Banker and customer – Types of Customers - General Relationship and Special Relationship between Banker and Customer - KYC Norms.

Unit-V: Collecting Banker and Paying Banker

Concepts - Duties & Responsibilities of Collecting Banker – Holder for Value – Holder in Due Course – Statutory Protection to Collecting Banker - Responsibilities of Paying Banker - Payment Gateways.

Books for Reference

1. Banking Theory: Law & Practice : K P M Sundram and V L Varsheney
2. Banking Theory, Law and Practice : B. Santhanam; Margam Publications
3. Banking and Financial Systems : Aryasri
4. .Introduction to Banking : Vijaya Raghavan
5. Indian Financial System : M.Y.Khan
6. Indian Financial System : Murthy & Venugopal

KVR Govt. College for Women (A), Kurnool
Department of Commerce
BOS
II B.Com (CA) IV SEM
Syllabus for the Academic Year – 2016 -17
Fourth Semester BCom General / BCom Computer Applications
Business Laws

Unit-I :Contract

Meaning and Definition of Contract-Essential elements of valid Contract -Valid, Void and Voidable Contracts - Indian Contract Act, 1872.

Unit-II : Offer and Acceptance

Definition of Valid Offer, Acceptance and Consideration -Essential elements of a Valid Offer, Acceptance and Consideration.

Unit-III : Capacity of the Parties and Contingent Contract

Rules regarding to Minors contracts - Rules relating to contingent contracts - Different modes of discharge of contracts-Rules relating to remedies to breach of contract.

Unit-IV :Sale of Goods Act 1930

Contract of sale – Sale and agreement to sell – Implied conditions and warranties – Rights of unpaid vendor.

Unit-V: Information & Technology Act, 2000

Provisions and Overview of Act.

Suggested Readings:

J. Jayasankar, Business Laws, Margham Publication. Chennai -17
Kapoor ND, Mercantile Law , Sultan Chand
Balachandram V, Business law Tata
Tulsian , Business Law Tata
PillaiBhagavathi, Business Law ,S.Chand.
Business Laws, Maruthi Publishers

II B.Com (CA) IV SEM
Syllabus for the Academic Year – 2016 -17

DSC 3D - Income Tax

Objective: To equip the students with the working knowledge of Direct and Indirect Taxes in India.

Unit-I

Introduction: Income Tax Law – Basic concepts: Income, Person, Assesse, Assessment year, Agricultural Income, Capital and revenue, Residential status, Income exempt from tax (Theory and problems).

Unit-II

Income from salary: Allowances, perquisites, profits in lieu of salary, deductions from salary income, computation of salary income and qualified savings eligible for deduction u/s 80C (Theory and problems).

Unit-III

Income from House Property: Annual value, let-out/self occupied/deemed to be let-out house, deductions from annual value - computation of income from house property (Theory and problems).

Unit-IV

Income from Business & Profession: Meaning – Definition – Computation of Income from Business and Profession (Theory and problems).

Unit-V

Income from Capital Gains – Income from other sources – (from Individual point of view) — and assessment (Theory and problems).

Reference Books:

Dr. Vinod; K. Singhania; Direct Taxes – Law and Practice, Taxman Publications

B.B. Lal; Direct Taxes; Konark Publications

Dr. Mehrotra and Dr. Goyal; Direct Taxes – Law and Practice; Sahitya Bhavan Publication.

Gaur and Narang; Income Tax, Kalyani Publishers, New Delhi.

Fourth Semester BCom General / BCom Computer Applications Office Automation Tools

Unit-I: MS-Excel: features of Ms-Excel, Parts of MS-Excel window, entering and editing data in worksheet, number formatting in excel, different cell references, how to enter and edit formula in excel, auto fill and custom fill, printing options.

Unit-II: Formatting options: Different formatting options, change row height, formulae and functions, Functions: Meaning and advantages of functions, different types of functions available in Excel.

Unit-III: Charts: Different types of charts, Parts of chart, chart creation using wizard, chart operations, data maps, graphs, data sorting, filtering. Excel sub totals, scenarios, what-if analysis

Macro: Meaning and advantages of Macros, creation, editing and deletion of macros - Creating a macro, how to run, how to delete a macro.

Unit-IV: MS Access: Creating a Simple Database and Tables: Features of Ms-Access, Creating a Database, Parts of Access. Tables: table creation using design view, table wizard, data sheet view, import table, link table. Forms: The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.

Unit- V: Finding, Sorting and Displaying Data: Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multi-level sorts, Finding incomplete matches, showing All records after a Query, saving queries - Crosstab Queries. Printing Reports: Form and Database Printing. Relational Databases: Flat Versus Relational, Types of Relationships, Viewing Relationships, Defining and Redefining Relationships, Creating and Deleting Relationships.

Reference Books:

1. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill(2008)
2. EdBott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007)
3. Sanjay Saxsena, Microsoft Office, 4. Microsoft Office, BPB Publications

II B.Com (CA) III SEM
Syllabus for the Academic Year – 2016 -17

ENTREPRENEURSHIP (Foundation Course - 5)

Objective: The Objective of this paper is to inculcate the knowledge of entrepreneur skills and need of Women Entrepreneurship.

UNIT I – Introduction: meaning and Definition of Entrepreneur and Entrepreneurship - Characteristics of Entrepreneur – Functions. Women Entrepreneurship – Need and Importance of Women Entrepreneurship – Challenges of Women Entrepreneurs - Role of Women Entrepreneurs in Corporate Sector in India.

UNIT-II –

Financing of Enterprises: Need for Financial Planning, Sources of finance, Capital Structure, Term- Loan, Sources of Short- Term Finance, Capitalization, Venture capital, Export Finance, Institutional Finance To Entrepreneurs, Preparation of Business Plans, Commercial Banks, Other financial institutions like IDBI, IFCI, ICICI, IRBI, LIC, UTI, SFCs, SIDCs, SIDBI, EXIM Bank.

UNIT – III – Project Management: Concept of a project – project classification – project Identification – project formulation – project report- project design – project appraisal – profitability appraisal – project planning.

Suggested Readings

Nandan, H, Fundamentals of Entrepreneurship, Prentice Hall of India, New Delhi.

Vasant Desai, Dynamics of Entrepreneurship Development and Management, Himalaya Publishing House, New Delhi

Thomas, W. Zirnmerer, Norman, M. Scarborough, Essentials of Entrepreneurship and Small Business Management, Pearson Education, New Delhi

Madhurima La11, Shiksha Sahai, Entrepreneurship, Excel Rooks, New Delhi

Computer Applications

ANNEXURE - III

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

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

B.A(CA & CE) Three-Year Degree Course (Semester Wise)

Syllabus for IInd Year – IIIrd Semester.

Part – II : COMPUTER APPLICATIONS

Paper III : Google Web Products

No. of Hours Per Week : 03

Max. Marks: 75.

Unit-I : Basics of Web : The Internet and Web defined – Timeline of Internet History – Advantages and disadvantages of Internet, Browser– Text-based and Graphics-based Browsers – Web Terminology – Browser Components

Unit-II : Browser Details: Miscellaneous Browser Details : Cookies, Disk Cache, Plug-ins, Helper Applications, Homepage, JavaScript and Java, Images, Messages and Bookmarks/Favorites – Lynx, Internet Explorer, Navigator, Firefox, Chrome Browsers, etc.

Unit-III : Web, Media and Geo : E-mail with Gmail : Create, Send/Receive, Search, Spam, Trash – Google Drive : Create, share and Delete – Google Search : Web, Image, Video, Books, Photos, News – Google You tube : Video search/download/upload – Google Maps : To View Map and Directions – Google Earth : Explore the world from the computer.

Unit-IV : Documents and Presentations : Google Docs : Open, Edit and Create Documents – Programs on Documents – Google Slides : Open, Edit and Create Presentations – Programs on Presentations.

Unit-V : Spreadsheets and Forms : Google Sheets : Open, Edit and Create Spreadsheets – Programs on Spreadsheets – Google Forms : Open, Edit and Create Forms for Surveys/Tests – Programs on Forms.

Unit-VI : Social media What is Social Media-Classification of Social media-Global Usage-Criticism-Twitter-You tube-Blogs-Face book- LinkedIn, virus and antivirus, configuring firewalls.

Reference Books/Websites :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e – by Raymond Greenlaw and Ellen Hepp, Publishers : TMH
2. Refer the URL : <https://www.google.co.in/intl/en/about/products>

ANNEXURE - IV

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

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

B.A(CA&CE)/B.Com Three-Year Degree Course (Semester Wise)

Syllabus for IInd Year – IVth Semester.

Part – II : COMPUTER APPLICATIONS

Paper-IV : Office Automation Tools

No. of Hours Per Week : 03

Max. Marks:75.

Unit-I

MS-Excel: features of Ms-Excel, Parts of MS-Excel window, entering and editing data in worksheet, number formatting in excel, different cell references, how to enter and edit formula in excel, auto fill and custom fill, printing options.

Unit-II

Formatting options: Different formatting options, change row height, formulae and functions

Functions: Meaning and advantages of functions, different types of functions available in Excel.

Unit-III

Charts: Different types of charts, Parts of chart, chart creation using wizard, chart operations, data maps, graphs, data sorting, filtering. Excel sub totals, scenarios, what-if analysis
Macro: Meaning and advantages of Macros, creation, editing and deletion of macros – Creating a macro, how to run, how to delete a macro.

Unit-IV

MS Access: Creating a Simple Database and Tables: Features of Ms-Access, Creating a Database, Parts of Access. **Tables:** table creation using design view, table wizard, datasheet view, import table, link table. **Forms:** The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.

Unit- V

Finding, Sorting and Displaying Data: Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multi-level sorts, Finding incomplete matches, showing All records after a Query, saving queries - Crosstab Queries.

Unit VI

Export Data: Exporting the data from other Applications(Excel,HTML) **Relational Databases:** Flat Versus Relational, Types of Relationships, Viewing Relationships, Defining and Redefining Relationships, Creating and Deleting Relationships.

Reference Books:

- 1.Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill(2008)
- 2.Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007)
3. Sanjay Saxsena, Microsoft Office, 4.Microsoft Office, BPB Publications

ANNEXURE – VI

LIST OF PRACTICALS

KVR GOVT. COLLEGE (AUTONOMOUS): : KURNOOL

II B.A. CA/CE (Revised syllabus W.E.F.2016- 2017)

PRACTICAL PAPER: Google Web Products

- 1) Procedure to creation of mail.
- 2) Procedure to create Google Sheets
- 3) Procedure to create Google slides
- 4) Procedure to create Google Drive
- 5) Procedure to create Google documents
- 6) Procedure to create Google forms
- 7) Procedure to upload videos on Youtube.

II B.A. CA/CE /B.Com (Revised syllabus W.E.F.2016- 2017)

Office Automation Tool Life cycle.

- 8) 1Create a worksheet in excel by accepting serial number, student name, marks in 3 subjects, calculate total average and find out the maximum and minimum marks.
- 9) Create a work sheet in excel to show an employe and salaries as per following conditions:
 - a. D.A is 10% of daily pay.
 - b. H.R.A is 15% of basic salary
 - c. Income tax is 6% of basic salary and calculate gross salary.
- 10) Create a transport reservation with the following description conditions:
 - a. Passenger name not exceed 20 characters with the display message “Please” and enter your name.
 - b. Gender column male or female option in the interaction display request “Select gender please”.
 - c. Set No.>=1 and <=100 with display of message out of range use interactive display request “Enter set number”.
 - d. Class I or II, III to select as T. The amount is 500/- If the class is I is 400/- III is 300/-
- 11) Create a chart using cricket source and cricketers name and the number of runs using column chart and pie chart.
- 12) Create a database using MS-ACCESS with at least 5 records
TABLE1 STRUCTURE: REGISTER NUMBER, NAME, DOB, GENDER, CLASS.
TABLE2 STRUCTURE: REGISTER NUMBER, M1, M2 ,M3, M4, M5, TOTAL.
Maintain the relationship between two tables with REGISTER NUMBER
as a Primary Key and answer the following queries:
Show the list of students with the following fields as one query
REGISTER NUMBER, NAME, GENDER, TOTALMARKS.
- 13) Maintain the relationship between above two tables with REGISTER NUMBER
as a Primary Key and answer the following reports:
Reports must have following columns

Report1 with REGISTER NUMBER, NAME, MARKS OF ALL SUBJECTS and TOTAL
Report2 with REGISTER NUMBER, TOTAL, PERCENTAGE.

14) Create a database using MS-ACCESS with at least 5 records

TABLE1 STRUCTURE: EMP-CODE, EMP-NAME, AGE, GENDER, DOB.

TABLE2 STRUCTURE EMP-CODE, BASIC-PAY.

Maintain the relationship between two tables with EMP-CODE as a Primary Key
generate the following reports:

REPORT1: EMP-CODE, EMP-NAME, BASIC-PAY, DA, HRA, GROSS-SALARY.

REPORT2: EMP-CODE, EMP-NAME, AGE, GENDER, GROSS-SALARY

Communicative English

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

Second Year Communicative English (CBCS) Paper – II for B.A courses w.e.f 2015-2016

(Semester System)

(Syllabus for III and IV Semesters)

Semester - III	Semester – IV
Unit – I : Phonetics (1)Organs of speech (2)English consonants (3)English vowels, Diphthongs (4)Consonant clusters	Unit – I : Phonetics (1)Syllable (2)Word — accent / word stress (3)Intonation (4)Phonetic transcription
Unit – II : Linguistics (1)Language and its characteristics (2)Difference between human communication and animal communication (3)Dialects & Register (4)Morphology and Morpheme	Unit – II : Linguistics (1)Phonology and Phoneme (2)Allomorph and Allophone
Unit – III : Functional English (1)Attention, Greeting, Introduction and parting (2)Request (3)Agreement and Disagreement (4)Asking and giving information (5)Invitation (6)Complaint (7)Suggestion	Unit – III : Functional English (1)Apology (2)Gratitude (3)Convincing / Persuasion (4)Showing sympathy(Expressions for different occasions) (5)Permission (6)Giving Directions (7)Resume — Writing
Unit – IV : Question Tags	Unit – IV : Reading Skills(Skimming, Scanning)
Unit – V : Soft Skills communication skills : 1.Verbal and Nonverbal 2.Emotional skills : personal and interpersonal	Unit – V : Soft Skills communication skills : 1.Thinking skills : critical thinking and creative writing

Advance English

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

2016-17

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 2016-17 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 WWilliam 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)

Rural Development

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

B.A.RURAL DEVELOPMENT

Academic Year 2016-17

Paper-III: Indian Rural Economics Scene

Unit-1

Demographic Structure of Rural India – Trends in Population Growth – Composition of rural Work Force – Overpopulation: Causes and Consequences – Distress Migration – Changes in Rural Occupation Structure.

Unit-2

Development of Agriculture: Green Revolution – Land Reforms – Dry Land Farming – Organic Farming – Non-Pesticide Management – Implications of the Use of Genetically Modified seeds – National Agricultural Crop Insurance Scheme – National Agricultural Policy – Implication of Globalization for Indian Agriculture.

Unit-3

Promotion of Rural Industries and activities allied to Agriculture: Khadi and Village Industries Commission – District Industries Center – Programmes for the Development of Artisans – Promotion of Dairying, Sheep/Goat Rearing, Poultry and Aquaculture.

Unit-4

Rural Infrastructure: Bharat Nirman – Prime Minister's Grameen Sadak Yojana – Rural Infrastructure Development Fund – Provision of Urban Amenities in Rural Area (PUPRA)- Rural Energy : Conventional and Non-conventional sources.

Unit-5

Role of Information and Communication Technology in Rural Development – Technology Missions for Rural Development: Immunization – Drinking Water – Sanitation – Communication – Wasteland Development – Oilseeds and Pulses.

Books and References

- 1.N.I.R.D :Facets 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,2012
- 4.Katar Singh :Rural Development: Principles, Policies & Management
- 5.G.Sreedhar and D.Rajasekhar :Rural Development in India: Strategies and Processes, Concept Publishing House, New Delhi, 2014.
6. Misra & Sarma : Problems and prospects of Rural Development.
7. Vasant Desai : A Study of Rural Economy

Publications of A.P.Telugu Academy

Journals: Kurukshetra, Yojana, Khadi Gramodyog, Journal of R.D.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

B.A.RURAL DEVELOPMENT

Academic Year 2016-17

Paper-IV: Indian Rural Social Scene

Unit-1

Types of Villages in India – Characteristics of Village Communities – Rural Social Institutions – Family, Marriage and Religion : Role and Functions.

Unit-2

Definition of Caste – Distinction between Caste and Class – Caste system in India – Functions – Emerging trends.

Unit-3

Concept of Social Change – Factors of Social Change: Demographic, Economic, Technological, Cultural – Process of Social Change in India: Sanskritization , Westernization and Modernization.

Unit-4

Major Social Problems: Poverty – Unemployment – Illiteracy – Untouchability – Child Labour – Trafficking of Women.

Unit-5

Social Legislation for Women, Children, Scheduled Castes and Scheduled Tribes and Backward Classes.

Books and References

- 1.Vasnt Desai : Rural Development : Issues & Problems.
2. Chitambar : Rural Sociology.
3. P.C. Deb : Rural Sociology.
- 4.A.R. Desai : Rural Sociology.
5. Katar Singh : Rural Development: Principles, Policies & Management.
6. K.Venkata Reddy : Rural Development in India: Poverty and Development, Himalaya Publishing house, Mumbai,2012
7. G. Sreedhar and D.Rajasekhar : Rural Development in India : Strategies and Processes, Concept Publishing House,New Delhi, 2014.

Publications of A.P.Telugu Academy

Journals: Kurukshetra, Yojana, Khadi Gramodyog, Journal of R.D.

Advance Telugu

కె.వి.ఆర్. ప్రభుత్వ మహిళా డిగ్రీ కళాశాల (స్వ.ప్ర) కర్నూలు
బి.ఎ. (ఆర్.డి) రెండవ సంవత్సరము
ప్రత్యేక తెలుగు పాఠ్యప్రణాళిక - 2016-17
మూడవ సెమిస్టర్

ప్రాచీన సాహిత్య చరిత్ర

1. ప్రాబున్నయ యుగం - సాహిత్య వికాసం, నన్నయ,తిక్కన, ఎర్రన
2. శివ కవి యుగం - నన్నెచోడుడు, పండితారాధ్యుడు పాల్కుర్కి సోమనాధుడు
3. శ్రీనాథ యుగం - పదసాహిత్యం, అన్నమయ్య, మొల్లి
4. ప్రబంధ యుగం - అముక్త మాల్యద, మనుచరిత్ర, పాండురంగ మహాత్మ్యం, పారిజాతాపహరణం, కాకహస్తీశ్వర మహాత్మ్యం
5. వాయకరాజుల పాలనలో
సాహిత్యం - యక్షగానాలు, వచన కావ్యాలు
అనేకార్థక కావ్యాలు శతకాలు

కె.వి.ఆర్. ప్రభుత్వ సహిళా డిగ్రీ కళాశాల (స్వ.ప్ర) కర్నూలు

బి.ఎ. (ఆర్.డి) రెండవ సంవత్సరము

ప్రత్యేక తెలుగు పాఠ్యప్రణాళిక - 2016-17

నాల్గవ సెమిస్టర్

ఆధునిక సాహిత్య చరిత్ర

1. ఆధునిక కవిత్వం - గురజాడ, కృష్ణకావ్రి, శ్రీశ్రీ, జాషువా
2. నవలాసాహిత్యం - కందుకూరి, ఉన్నవ, గోపిచంద్, రంగనాయకమ్మ
3. నాటకం - భర్తృవరం, రామకృష్ణమాచార్యులు, వేదం వేంకటరాయశాస్త్రి
తిరుపతి వేంకట కవులు
4. కథానిక - శ్రీపాద సుబ్రహ్మణ్యశాస్త్రి, మధురాంతకం, రాజారాం,
కనకవర్తి వరలక్ష్మమ్మ
5. సాహిత్యంలో ఉద్యమాలు - ధోరణులు
జాతీయోద్యమం, భావకవిత్వోద్యమం, అభ్యుదయ కవిత్వం, స్త్రీ వాదం, దళితవాదం

Psychology

K.V.R Govt. College (W), Kurnool

(Autonomous)

Degree II B.A. Psychology Curriculum 2016-17

Semester - III

Paper - II SOCIAL PSYCHOLOGY

Time : 3 hours

Marks : 75

Unit - I :- Nature and scope of social Psychology

- Definition, Nature and scope of Social Psychology
- Research methods in Social Psychology - Observation, Survey, field study and Experimental method.

Unit - II :- Social perception and Impression Formation

- Social perception - meaning and factors influencing social perception.
- Attribution - Meaning and Errors in attribution - Impression formation-Techniques of Impression management.

Unit - III :- Socialization

- Definition and goals of Socialisation. Socialisation process.
- Stages of Socialisation. Agencies of socialisation, self concept.

Unit - IV :- Communication

- Definition, Nature and types of communication
- Barriers to effective communication - Rumors and propaganda

Unit - V :- Attitudes

- Definition - Features and formation of attitudes
- Measurement of attitudes - Methods by Likert, Bogardus and Thurstone.

Approved By :

1	V.V.Sesha Reddy	Chairperson BOS	V.V. Seshu
2	Dr. K.Lalitha	University Nominee	K. Lalitha
3	Dr.G.Koteswarajah	Subject Expert	G. Koteswarajah
4	Dr.S.Shamsuddin	Subject Expert	S. Shamsuddin
5	Smt. R. Krishnaveni	Corporate	R. Krishnaveni
6	Miss N. Parvathi	Alumnus	N. Parvathi

K.V.R Govt. College (W), Kurnool

(Autonomous)

Degree II B.A. Psychology Curriculum 2016-17

Semester - IV

Paper - II SOCIAL PSYCHOLOGY

Time : 3 hours

Marks : 75

Unit - I :- PREJUDICE

Prejudice and Discrimination, Origin and causes of Prejudice, Techniques of reducing prejudice.

Unit - II :- AGGRESSION

Definition, Determinants of Human Aggression - Social, Personal and Situational Factors, Theoretical perspectives on Aggression - Biological Perspective, Drive Theories, Social learning Perspective, and General Aggression Model, Prevention and Control of Aggression

Unit - III :- GROUPS AND INDIVIDUALS

Definition and Types of Groups, Functions of Groups : Role, Status, Norms, Cohesiveness; Individual Performance in Groups - Social Facilitation, Social Loafing.

Unit - IV :- LEADERSHIP

Definition, Traits of Leader, Types of Leaders - Autocratic, Democratic and Charismatic Leaders; Classic studies on Leadership

Experiments to be completed in II Year

(out of 23 experiments, 11 Experiments to be completed in II year)

Learning.

1. Insight learning (Step Maze)
2. Trial and Error learning (Finger or Slot Maze)
3. Associative learning (Letter - Digit substitution Test)
4. Bilateral transfer of training (Mirror Drawing / Cap and Ball)
5. Massed versus spaced Learning.
6. Part versus Whole Learning Method
7. Serial Learning - Position Effect
8. Habit Interference Test.

Memory

9. Measuring Retention using recognition method
10. Measuring Retention using Recall method
11. Short term memory for digits
12. Effect of Meaning on Retention
13. Accuracy of testimony

Thinking

14. Problem Solving (Pyramid Puzzle)
15. Mental Set (Luchin Jar problems)

Intelligence

16. Measuring intelligence using Non-Verbal Intelligence test
(Raven's Standard Progressive Matrices)
17. Measuring Intelligence using a performance test
(Alexander Pass along test / Koh's Block Design test)

Social Psychology

18. Sociometry
19. Measuring styles of leadership behaviour
20. Attitude measurement
21. Serial Reproduction of an event
22. Level of aspiration
23. Suggestion (Progressive Weights)

Reference Books :

1. Boron, R.A. & Byrne, D. (2006). Social Psychology; Printice-Hall of India Pvt.Ltd. New Delhi.
2. Baron, R.A., Branscombe, N.R., Byrne, D. & Bharadwaj, G. (2010). Social Psychology; Dorling Kindersley of India Pvt.Ltd.
3. Nageswara Rao, P. Asarani, S. & Swathi, P. (2010). Samaja Manovignana sastram, Telugu Akademi, Hyderabad.

1	V.V.Sesha Reddy	Chairperson BOS	<i>V.V. Seshu</i>
2	Dr. K.Lalitha	University Nominee	<i>K. Lalitha</i>
3	Dr.G.Koteswaralah	Subject Expert	<i>G.K. Suresh</i>
4	Dr.S.Shamsuddin	Subject Expert	<i>S. Shamsuddin</i>
5	Smt. ^P R. Krishnaveni	Corporate	<i>D. Krishna</i>
6	Miss N. Parvathi	Alumnus	<i>N. Parvathi</i>

Botany

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

II B.Sc., Botany Syllabus Theory

Paper –III, Semester – III

Title: Plant Taxonomy and Medicinal Botany

Unit. I : Introduction to Plant Taxonomy.

1. Fundamental components of Taxonomy (Identification, Nomenclature, Classification Types and phylogeny)
2. Salient features and comparative account of Bentham and Hooker and Engler and Prantl classification.
3. Role of Chemo Taxonomy and Cyto Taxonomy

Unit. II : Systematic Taxonomy

1. Nomenclature and Taxonomic resources; an introduction to International code of Botanical Nomenclature ; Principles, Rules, and Recommendations.
2. Systematic study and economic importance of plants belonging to the following families – Annonaceae, Capparidaceae, Rutaceae, Apiaceae, Asteraceae, Asclepiadaceae, Lamiaceae, Euphorceae, Orchidaceae and Poaceae.
3. Herbarium Techniques

Unit. III : Medicinal Botany

1. Ethanomedicine : Scope, Interdisciplinary nature , Distinction of Ethanomedicine from Folklore medicine. Out line of Ayurvedha, Sidda, Unani and Homeopathic systems of traditional medicine. Role of AYUSH, NMPB, CIMAP and CDRI.
2. Plants in Primary Health Care: Common Medicinal Plants – Tippateega (*Tinospora cordifolia*), Tulasi (*Ocimum sanctum*), Pippallu (*Piper longum*), Karaka (*Terminalia Chebula*), Kalabanda (*Aloeveera*), Turmeric (*Curcuma longa*)
3. Traditional Medicine vs Modern Medicine: Study of selected plant examples used in traditional medicine as resource (Active principles, structure, usage and pharmacological action) of modern medicine : Aswagandha (*Withania somnifera*), Sarpagandha (*Rauvolfia*)

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

II B.Sc., Botany Syllabus Theory

Paper –IV, Semester – IV

Title: Plant Physiology & Metabolism

Unit. I : Histology:

1. Tissues – Meristematic and permanent tissues (simple and complex)
2. Shoot apical meristem and its histological organization
3. Root apical meristem and its histological organization

Unit. II : Anatomy:

1. Normal secondary growth in dicot stem
2. Anomalous secondary growth in Dracaena, Boerhaavia and Bignonia
3. Wood structure – general account, study of local Timbers Teak, Rosewood, Red sanders and Terminalia tomentosa

Unit. III :Embryology and Palynology :

1. Anther structure, Microsporogenesis, Development of male gametophyte, .
2. Ovules structure and types – Megasporogenesis, development and structure of Embryosac, types
3. Monosporic; Polygonum. Oenothera, Bisporic: Allium, Endymion : Adoxa, Paperomia, Plumbago and Plumbagella
4. Pollination – Pollen pistil interaction: double fertilization
Endosperm – development, types
5. Embryogeny – Dicot (Crucifer) and Monocot (Luzula)
Polyembryony – types, causes, significance (Apomixis)
6. Palynology - principles and applications³

Paper –III, Semester – III
Title: Plant Taxonomy and Medicinal Botany
Practical List

1. Systematic study of families Annonaceae, Brassicaceae, Rutaceae; Lamiaceae, Asteraceae, Asclepiadaceae, Poaceae
2. Demonstration of Herbarium techniques
3. Structure of Pollen grains- Catharanthes, Hibiscus, Acacia, Grass
4. Types of ovules
5. Structure of Endosperms
6. Structure of Embryo
7. Field visits and study of local Flora

Paper –IV, Semester – IV
Title: Plant Physiology & Metabolism
Practical List

1. Osmosis,
2. Plasmolysis
3. Structure of Stomata (Dicot & Monocot)
4. Cobalt chloride experiment
5. Ganong's potometer experiment
6. Effects of temperature on Membrane Permeability
7. Study of mineral deficiency symptoms
8. Paper Chromatography experiment

Zoology

ANNEXURE I

KVR GOVT COLLEGE (W), KURNOOL (Autonomous)

NACC RE- ACCREDITED 'A' GRADE

B.SC. SECOND YEAR SYLLABUS 2016-17

ZOOLOGY SYLLABUS FOR III SEMESTER

ZOOLOGY - PAPER - III

CYTOLOGY, GENETICS AND EVOLUTION

Unit - I

1. Cytology - I

- 1.1 Definition, history, prokaryotic and eukaryotic cells, virus, viroids, mycoplasma
- 1.2 Electron microscopic structure of eukaryotic cell.
- 1.3 Plasma membrane –Different models of plasma membrane.

Unit – II

2. Cell organelles

- 2.1 Structure and functions of Endoplasmic Reticulum
- 2.2 Structure and functions of Golgi apparatus
- 2.3 Structure and functions of Lysosomes
- 2.4 Structure and functions of Ribosomes
- 2.5 Structure and functions of Mitochondria
- 2.6 Nucleus
- 2.7. Chromatin - Structure and significance, Chromosomes - Structure, types, functions

Unit - III

3.1 Genetics - I

- 3.1.1 Mendel's work on transmission on traits
- 3.1.2 Principles of inheritance
- 3.1.3 Incomplete dominance and codominance
- 3.1.4 Lethal alleles, Epistasis, Pleiotropy

Unit - IV

4.1 Genetics - II

- 4.1.1 Sex determination
- 4.1.2 Sex linked inheritance
- 4.1.3 Linkage and crossing over
- 4.1.4 Extra chromosomal inheritance
- 4.1.5 Human karyotyping

Unit - V

5.1 Evolution

5.1.1 Origin of life

5.1.2 Lamarckism, Darwinism, Neo – Darwinism, Hardy-Weinberg Equilibrium.

5.1.3 Variations, isolating mechanisms, natural selection

5.1.4 Types of natural selection (directional, stabilizing, disruptive)

5.1.5 Artificial selection and forces of evolution

5.1.6 Speciation (Allopatric and Sympatric)

5.1.7 Macro evolutionary principles (Example: Darwin's finches)

ANNEXURE II

KVR GOVT COLLEGE (W), KURNOOL (Autonomous)
NACC RE- ACCREDITED 'A' GRADE
B.SC. SECOND YEAR SYLLABUS 2016-17
ZOOLOGY SYLLABUS FOR IV SEMESTER
ZOOLOGY - PAPER - IV
EMBRYOLOGY, PHYSIOLOGY AND ECOLOGY

Unit - I

1.1 Developmental Biology and Embryology

- 1.1.1 Gametogenesis
- 1.1.2 Fertilization
- 1.1.3 Types of eggs
- 1.1.4 Types of cleavages
- 1.2 Development of Frog upto formation of primary germ layers
- 1.3 Formation and functions of Foetal membrane in chick embryo
- 1.4 Development, types and functions of Placenta in mammals

Unit - II

2.1 Physiology - I

- 2.1.1 Elementary study of process of digestion
- 2.1.2 Absorption of digested food
- 2.1.3 Respiration - Pulmonary ventilation, transport of oxygen and carbondioxide
- 2.1.4 Circulation - Structure and functioning of heart, Cardiac cycle
- 2.1.5 Excretion - Structure of nephron, urine formation, counter current mechanism

Unit - III

3.1 Physiology - II

- 3.1.1 Nerve impulse transmission - Resting membrane potential, origin and propagation of action potentials along myelinated and non-myelinated nerve fibers
- 3.1.2 Muscle contraction - Ultra structure of muscle fibre, molecular and chemical basis of muscle contraction
- 3.1.3 Endocrine glands - Structure, secretions and the functions (of hormones) of pituitary, thyroid, parathyroid, adrenal glands and pancreas
- 3.1.4 Hormonal control of reproduction in a mammal

Unit - IV

4.1 Ecology - I

- 4.1.1 Meaning and scope of Ecology
- 4.1.2 Important abiotic factors of Ecosystem - Temperature, light, water, oxygen and

CO₂

4.1.3 Nutrient cycles - Nitrogen, carbon and phosphorus

4.1.4 Components of Ecosystem (Example:lake), food chains and food web, energy flow in ecosystem

Unit - V

5.1 Ecology - II

5.1.1 Habitat and ecological niche

5.1.2 Community interactions - Mutualism, commensalism, parasitism, competition, predation

5.1.3 Ecological succession

5.1.4 Population studies

5.2 Zoogeography

5.2.1 Zoogeographical regions

5.2.2 Study of physical and faunal peculiarities of Oriental, Australian and Ethiopian regions

KVR GOVT COLLEGE (W), KURNOOL (AUTONOMOUS)
NACC RE- ACCREDITED 'A' GRADE
SECOND YEAR 2016-17
ZOOLOGY PRACTICAL SYLLABUS FOR III SEMESTER
ZOOLOGY - PAPER - III
CYTOLOGY, GENETICS AND EVOLUTION

Periods: 24

Max. Marks: 50

I. Cytology

1. Preparation of temporary slides of Mitotic divisions with onion root tips
2. Observation of various stages of Mitosis and Meiosis with prepared slides
3. Mounting of salivary gland chromosomes of Chironomus

II. Genetics

1. Study of Mendelian inheritance using suitable examples
2. Study of linkage recombination, gene mapping using the data
3. Study of human karyotypes

III. Evolution

1. Study of fossil evidences
2. Study of homology and analogy from suitable specimens and pictures
3. Phylogeny of horse with pictures
4. Darwin's finches (pictures)
5. Visit to natural history museum and submission of report

Chemistry

K.V.R. GOVERNMENT COLLEGE (A), (W),

REACCREDITED WITH 'A' GRADE BY NAAC, KURNOOL

SYLLUBUS: II YEAR B.Sc, - III – SEMESTER (w.e.f. 2016 – 2017)

PAPER – III; INORGANIC CHEMISTRY & ORGANIC CHEMISTRY

INORGANIC CHEMISTRY

30 hrs (2h / w)

UNIT –I

1. Chemistry of d-block elements:

9h

Characteristics of d-block elements with special reference to electronic configuration, variable valence, magnetic properties, catalytic properties and ability to form complexes. Stability of various oxidation states .

2. Theories of bonding in metals:

6h

Metallic properties and its limitations, Valence bond theory, Free electron theory, Explanation of thermal and electrical conductivity of metals, limitations, Band theory, formation of bands, explanation of conductors, semiconductors and insulators.

UNIT – II

3. Metal carbonyls:

7h

EAN rule, classification of metal carbonyls, structures and shapes of metal carbonyls Of Mn, Fe, Co, Metallocenes (only ferrocene).

4. Chemistry of f-block elements:

8h

Chemistry of lanthanides - electronic structure, oxidation states, lanthanide contraction, consequences of lanthanide contraction, magnetic properties. Chemistry of actinides - electronic configuration, oxidation states, actinide contraction, comparison of lanthanides and actinides, separation of lanthanides by ion exchange and solvent extraction methods.

ORGANIC CHEMISTRY

30 h (2h/w)

UNIT – III

1. Halogen compounds

5 h

Nomenclature and classification of alkyl (into primary, secondary, tertiary), aryl, aryl alkyl, allyl, vinyl, benzyl halides. Chemical Reactivity, Formation of RMgX, Nucleophilic aliphatic substitution reaction- classification into SN^1 and SN^2 . Energy Profile Diagram of SN^1 and SN^2 reactions. Stereochemistry of SN^1 (**Racemisation**) and SN^2 (Walden Inversion). Explanation of both by taking the example of optically active alkyl halide – 2-bromo butane.

2. Hydroxy compounds

5 h

Nomenclature and classification of hydroxy compounds. Alcohols: Preparation with hydroboration reaction, Grignard synthesis of alcohols. Phenols: Preparation i) from diazonium salt, ii) from aryl sulphonates, iii) from cumene. Physical properties- Hydrogen bonding (intermolecular and intramolecular). Effect of hydrogen bonding on boiling point and solubility in water. Chemical properties: a) acidic nature of Phenol. b) Formation of alkoxides/phenoxides and their reaction with RX. c) Replacement of OH by X using PCl_5 , PCl_3 . d) Dehydration of 2-butanol by concentrated Sulfuric acid. e) Oxidation of alcohols by Jones reagent. c) Special reaction of phenols: Bromination, Kolbe-Schmidt reaction, Riemer-Tiemann reaction, Fries rearrangement, Azocoupling, Pinacol-Pinacolone rearrangement.

UNIT-IV

Carbonyl compounds

10 h

Nomenclature of aliphatic and aromatic carbonyl compounds, structure of the carbonyl group. Common synthetic methods of Aldehydes and Ketones. Physical properties: Absence of Hydrogen bonding, Keto-enol tautomerism, Reactivity of carbonyl group in aldehydes and ketones. Nucleophilic addition reaction with a) NaHSO_3 , b) HCN , c) NH_2OH , d) PhNHNH_2 , e) 2,4 DNP, f) Alcohols-formation of hemiacetal and acetal. Base catalysed reactions: a) Aldol, b) Cannizzaro's reaction, c) Perkin reaction, d) Benzoin condensation, e) Haloform reaction, f) Knoevenagel reaction. Oxidation of aldehydes- Baeyer-Villiger oxidation of ketones. Reduction: Clemmensen reduction, Wolf-Kishner reduction, MPV reduction.

UNIT-V

1. Carboxylic acids and derivatives

6 h

Nomenclature, classification and structure of carboxylic acids. Methods of preparation by a) Hydrolysis of nitriles b) Carbonation of Grignard reagents. Special methods of preparation of aromatic acids by a) Oxidation of side chain. b) Hydrolysis by benzotrichlorides. **Physical properties:** Hydrogen bonding, dimeric association. **Chemical properties:** Reactions involving H, OH and COOH groups- salt formation, anhydride formation, acid chloride formation, amide formation. Hunsdiecker reaction, Schmidt reaction, Arndt-Eistert synthesis, Hell- Volhard-Zelinsky reaction.

2. Active methylene compounds

4 h

Acetoacetic ester: keto-enol tautomerism, preparation by Claisen condensation, Acid hydrolysis and ketonic hydrolysis. Preparation of a) monocarboxylic acids. b) Dicarboxylic acids. c) Reaction with urea

Malonic ester: preparation from acetic acid. **Synthetic applications:** Preparation of a) monocarboxylic acids (propionic acid and n-butyric acid). b) Dicarboxylic acids (succinic acid and adipic acid) c) α,β -unsaturated carboxylic acids (crotonic acid). d) Reaction with urea.

List of Reference Books

1. Selected topics in inorganic chemistry by W.D.Malik, G..D.Tuli,R.D.Madan
2. Inorganic Chemistry J E Huheey, E A Keiter and R L Keiter
3. A Text Book of Organic Chemistry by Bahl and Arun bahl
4. A Text Book of Organic chemistry by I L Finar Vol I
5. Organic chemistry by Bruice
6. Organic chemistry by Clayden
7. Advanced Inorganic chemistry by Gurudeep Raj
8. Basic Inorganic Chemistry by Cotton and Wilkinson
9. Concise Inorganic Chemistry by J.D.Lee

LABORATORY COURSE -III

30 hrs. (2 h / w)

Practical Paper-III Titrimetric analysis and Organic Functional Group Reactions (At the end of Semester-III)

Titrimetric analysis:

25M

1. Determination of Fe (II) using KMnO_4 with oxalic acid as primary standard.
2. Determination of Cu(II) using $\text{Na}_2\text{S}_2\text{O}_3$ with $\text{K}_2\text{Cr}_2\text{O}_7$ as primary standard.

Organic Functional Group Reactions

25M

3. Reactions of the following functional groups present in organic compounds
(at least four) Alcohols, Phenols, Aldehydes, Ketones, Carboxylic acids and Amides

ANNEXURE –II
K.V.R. GOVERNMENT COLLEGE (A), (W),
REACCREDITED WITH ‘A’ GRADE BY NAAC, KURNOOL
SYLLUBUS: II YEAR B.Sc, - IV – SEMESTER (w.e.f. 2016 – 2017)
PAPER – IV; SPECTROSCOPY & PHYSICAL CHEMISTRY

60 hrs (4 h / w)

SPECTROSCOPY

30 hrs

(2h / w)

UNIT-I

6h

General features of absorption - Beer-Lambert's law and its limitations, transmittance, Absorbance, and molar absorptivity. Single and double beam spectrophotometers. Application of Beer-Lambert law for quantitative analysis of 1. Chromium in $K_2Cr_2O_7$

2. Manganese in Manganous sulphate

Electronic spectroscopy:

8h

Interaction of electromagnetic radiation with molecules and types of molecular spectra. Energy levels of molecular orbitals (σ , π , n). Selection rules for electronic spectra. Types of electronic transitions in molecules effect of conjugation. Concept of chromophore and auxochrome.

UNIT-II

Infra red spectroscopy

8h

Different Regions in Infrared radiations. Modes of vibrations in diatomic and polyatomic molecules. Characteristic absorption bands of various functional groups. Interpretation of spectra-Alkanes, Aromatic, Alcohols carbonyls, and amines with one example to each.

Proton magnetic resonance spectroscopy (1H -NMR)

8h

Principles of nuclear magnetic resonance, equivalent and non-equivalent protons, position of signals. Chemical shift, NMR splitting of signals - spin-spin coupling, coupling constants. Applications of NMR with suitable examples - ethyl bromide, ethanol, acetaldehyde, 1,1,2-tribromo ethane, ethyl acetate, toluene and acetophenone.

PHYSICAL CHEMISTRY

30 hrs (2h / w)

UNIT-III

Dilute solutions

10h

Colligative properties. Raoult's law, relative lowering of vapour pressure, its relation to molecular weight of non-volatile solute. Elevation of boiling point and depression of freezing point. Derivation of relation between molecular weight and elevation in boiling point and depression in freezing point. Experimental methods of determination. Osmosis, osmotic pressure, experimental determination. Theory of dilute solutions. Determination of molecular weight of non-volatile solute from osmotic pressure. Abnormal Colligative properties- Van't Hoff factor.

UNIT-IV

Electrochemistry-I

10h

Specific conductance, equivalent conductance. Variation of equivalent conductance with dilution. Migration of ions, Kohlrausch's law. Arrhenius theory of electrolyte dissociation and its limitations. Ostwald's dilution law. Debye-Huckel-Onsager's equation for strong electrolytes (elementary treatment only). Definition of transport number, determination by Hittorff's method. Application of conductivity measurements- conductometric titrations.

UNIT-V

1. Electrochemistry-II

4h

Single electrode potential, sign convention, Reversible and irreversible cells Nernst Equation- Reference electrode, Standard Hydrogen electrode, calomel electrode, Indicator electrode, metal – metal ion electrode, Inert electrode, Determination of EMF of cell, Applications of EMF measurements - Potentiometric titrations.

2.Phase rule

6h

Concept of phase, components, degrees of freedom. Thermodynamic Derivation of Gibbs phase rule. Phase equilibrium of one component system - water system. Phase equilibrium of two- component system, solid-liquid equilibrium. Simple eutectic diagram of Pb-Ag system, simple eutectic diagram, desilverisation of lead., NaCl-Water system, Freezing mixtures.

List of Reference Books

1. Spectroscopy by William Kemp
2. Spectroscopy by Pavia
3. Organic Spectroscopy by J. R. Dyer
4. Modern Electrochemistry by J.O. M. Bockris and A.K.N.Reddy
5. Advanced Physical Chemistry by Atkins
- 6.Introduction to Electrochemistry by S. Glasstone
- 7.Elementary organic spectroscopy by Y.R. Sharma
8. Spectroscopy by P.S.Kalsi

LABORATORY COURSE – IV

**Practical Paper - IV Physical Chemistry and IR Spectral Analysis
(at the end of semester IV)**

30 hrs (2 h / W)

Physical Chemistry

25M

1. Critical Solution Temperature- Phenol-Water system
2. Effect of NaCl on critical solution temperature (Phenol-Water system)
3. Determination of concentration of HCl conductometrically using standard NaOH solution.
4. Determination of concentration of acetic acid conductometrically using standard NaOH Solution.

IR Spectral Analysis

25 M

5. IR Spectral Analysis of the following functional groups with examples
 - a) Hydroxyl groups
 - b) Carbonyl groups
 - c) Amino groups
 - d) Aromatic groups

Home Science

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

SYLLABUS FOR THE III & IV SEMESTER 2016-18

HSC.301FOOD SCIENCE

THEORY

Unit-IFood- Definition and objectives in the study of food

- Functions of food
- ICMR food group classification
- Factors affecting food selection

Unit-II Food Groups

- Cereals and millets-structure, composition and nutritive value, processing, use in variety of preparations.
- Pulses and legumes: composition and nutritive value
- Nuts and oils seeds: nutritive value, use in cookery
- Vegetables and fruits: classification, nutritional aspect, pigments and enzyme

Unit-III Food Groups

- Meat, fish, poultry and eggs: nutritive value, use in cookery
- Milk and Milk products: nutritive value, use in cookery
- Spices and condiments: nutritive value, use in cookery
- Beverages – classification and role of beverages in our diet

Unit-IV Food Preparation- Importance and objectives

- Methods of cooking
- Effect of cooking on nutritional values and digestibility
- Pressure cooking and microwave cooking.

Unit-V Improving nutritional quality of Food

- Germination, Fermentation, Supplementation, Substitution
- Fortification and enrichment
- Functional food its importance

PRACTICAL

1. Standardization of weights and measures of various food items.
2. Food preparation and understanding the cooking Procedure for different types of food- Cereals, Pulses, Milk, Egg, Fish and Meat, and Vegetable cookery
3. Preparation of Resource File

REFERENCES

1. Bamji MS, Krishnaswamy K, Brahman GNV (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd.
2. Srilakshmi (2010). Food Science, 5th Edition. New Age International Ltd.
3. Wardlaw MG, Insel PM (2004). Perspectives in Nutrition, Sixth Edition, Mosby.
4. Dr. M. Swaminathan Hand Book of Food and Nutrition the Bangalore printing and Publishing Co.Ltd
5. VijayaKhader, Text Book on Food storage and Preservation.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

HSC 302. HOUSING FOR BETTER LIVING

THEORY

Unit-I Introduction to House

- Importance of Housing
- Types of houses
- Functions of a house

Unit II Housing needs in different stages of family lifecycle and economic levels.

- Housing choice - Ownership Versus Renting -Advantages and Disadvantages
- Selection of site

Unit-III Planning of housing

- Principles of Planning and importance of planning space
- Orientation – importance, definitions –Aspect, Prospect, Privacy, Grouping, Roominess, Flexibility, Circulation, Sanitation, Light, Ventilation, Stuffiness, Cleanliness
- Factors to be considered while planning different rooms and ways to attain Good Orientation in Residential Building

Unit-IV Ergonomics in Planning for family living space

- Designing Service Space – Planning for efficient Kitchen, Kitchen layout
- Planning for efficient work centers and storage areas in the kitchen, bathroom, laundry and other areas of the house.
- Practical considerations of Water supply, Electricity, Plumbing, and drainage facilities

Unit-V Housing Finance

- Financial agency – HDFC, LIC and other banks
- State and Central Housing Scheme- HUDCO
- Housing problems, causes and remedial measures.
- Prevention of accidents and safety measures in the home.

PRACTICALS:

1. Learning to read House plan – Identification of Symbols
2. Site plan, Floor plan, Elevation, Perspective view, Land scape plan
3. Drawing house plan for different income groups
4. Drawing different types of Kitchen plan
5. Storage and cupboard design.
6. Preparation of Resource file

REFERENCES

1. Julius Panero and Martin Zelink, (1979), Human Dimensions and Interior Space, 1st edition, Watson –Guptil Publications, Newyork, pp 23,131-163

2. M.N. Jogelekar and Neelkamal Sharma, Housing Architectural Details, Hudco publication, New Delhi.
3. Home furnishing by Rett
4. Home management by Gross and Crandle
5. Textbook of Homescience- PremlataMultick

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
HSC.303. TEXTILE FIBERS AND FABRIC

THEORY

Unit I Introduction to Textiles

- Classification of Textile fibers and their general properties.
- Polymerization- types of Polymer
- Factors affecting selection of fabric for various uses.

Unit II Textile fibers - Composition, manufacturing process, properties and uses

- Natural cellulosic fibers- Cotton, Flax and Jute.
- Natural Protein fibers- Silk and Wool.
- Synthetic fibers- Rayon, Acrylic, Nylon and Polyester

Unit III Yarns- Definition and types of Yarns

- Simple yarn: Single ply, cord, crepe, staple, filament, balanced, unbalanced, types of twist and effect of twist on fabric performance.
- Complex yarns: Slub, flock/ flack, Bounce/ loop, ratine, loop, knot, grandellechennille.
- Methods of spinning.

Unit IV Method of fabric construction

- Weaving – Definitions, Terms, Basic weaving operation
- Types of weave- Basic and Decorative, Dobby and Jacquard attachment
- Knitting- Types of knit stitches
- Other Methods of fabric construction - netting, knotting, felting, braiding and bonding

Unit V Fabric care.

- Darning and mending.
- Principles and methods of washing and finishing.
- Stain removal - principles, classification and techniques.
- Cleansing agents - water, detergent and soap. Other reagents - acidic and alkaline.
- Bleaching agents. Additives used in laundering - stiffening, blueing and optical brighteners.

PRACTICALS

1. Identification of textile fabrics by- visual, burning, microscopic and chemical tests.
2. Laboratory tests on fabrics- Fabric count and type of weaves.
3. Construction of different types of weaves and collection of their sample.
4. Color fastness to sunlight and washing of various fabrics.
5. Darning and mending of the fabric

REFERENCES:

1. Corbman Textiles- Fiber to Fabric.McGraw Hill.
2. James,W. &Sylvia,C. Crochet. Octopus book limited.
3. Allen,F.(1952)Handbook of Weaving Technology London Sir Issac Pitman. Murphy
4. W.S. Handbook of Weaving. Abhishek Publications, Chandigarh.
5. Majory L. Josheph“Essentials of Textile”

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

HSC.401.FOOD PRESERVATION & PROTECTION

THEORY

Unit I Food Spoilage - its causes

- Perishable, semi-perishable and nonperishable foods.
- Factors affecting the growth of micro-organisms in the food.
- Food Sanitation and hygiene- Control and inspection

Unit II Food Preservation-Importance and principles of food preservation

- Methods of food preservation.
- Preservation at low temperature(Refrigeration and freezing)
- Preservation at high temperature(Pasteurization and sterilization)
- Preservatives- use and types
- Canning, Drying and Radiation.

Unit III Food Adulteration

- Food Adulterants-Types and their harmful effects
- Food Adulteration and its household methods of detection.

Unit IV Food Additives – definition and classification.

- General principles in the use of food additives issued by FAO, WHO.

Unit V Food Laws and Standards

- Responsible agencies for safe food.
- Present regulations / orders / standards related to food.
- Food packaging and labeling

PRACTICAL

- Survey of various preserved product and common additives available in the market
- Identification of food adulteration at household level
- Preparation of jams, jellies, pickles, squashes, sauce etc.

REFERENCES

1. B. Srilakshmi, Food Science, New age International (P) Limited, New Delhi.
2. Dr. M. Swminathan Hand Book of Food and Nutrition the Bangalore printing and Publishing Co.Ltd.
3. VijayaKhader, Text Book on Food storage and Preservation.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
HSC.402 INTERIOR DECORATION

THEORY

Unit II Interior Decoration- Meaning and importance and development of good taste

- Element of design
- Types of design.
- Factors influencing interior design

Unit II Application of elements of art and principles of design

- Elements of art - Line, form, colour, pattern, light, texture, space.
- Colours - classification, colour schemes and their effects.
- Principles of design -Harmony, Balance, Rhythm, Emphasis Scale and Proportion
- Application of art principles and elements of design in improving the appearance of home

Unit III Furniture –Types, Factors to be considered for selection

- Arrangement of furniture in different room
- Care and maintenance of furniture.
- Accessories- Types, Functions and Use of accessories in interior enrichment

Unit IV Flower arrangement

- Principles, selection and different flower arrangement styles.
- Points to be considered while selecting flowers and aids for arranging flowers
- Dry flower arrangement-preserving flowers by different method.

Unit- V Lighting arrangement-Natural and artificial arrangement for different rooms and Activity centers

- Wall, floor and window enrichment
- Table setting - general rules for table setting.
- Table manners and Etiquette.

PRACTICALS

1. Interior Design- Types of Design- Natural, Decorative conventional, Geometric abstract drawing/ painting/ clipping using magazines.
2. Application of principles of art in different rooms
3. Drawing of colour wheel and developing colour schemes.
4. Different types of Flower arrangement
5. Floor decoration – Rangoli and Alpana
6. Preparation & placement of accessories for interior enrichment.
7. Table setting-Indian and western
8. Preparation of Resource file

REFERENCES:

1. Julius Panero and Martin Zelink, (1979), Human Dimensions and Interior Space, 1st edition, Watson –Guptil Publications, Newyork, pp 23,131-163
2. Art in Everyday Life - Harriet Goldstein Mac Millan Co. New York.
3. Colour Trends- Vol. I, Ethnic, Japanese, High- Tech Colors, AIM Creative Products Pvt. Ltd.
4. Colour- A guide to basic facts and concepts, John Wiley & Sons, New York.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
HSC.403 CLOTHING CONSTRUCTION

THEORY

Unit I Introduction - Importance and functions of clothing.

- Clothing construction - introduction, terminology and principles.
- Equipment and accessories used in construction.
- Sewing machine - parts, functions, care, maintenance, problems and general repair.

UNIT II Stitches – classification, hand and machine stitches

- Types of seams- plain, flat, ridge, decorative
- Additional seam techniques: clipping, notching, grading, trimming, easing, under stitching, stay stitching, mitering, trimming a corner
- Raw edge finishes, Fullness and ease

UNIT III Methods of garment construction suitable for different fabrics –

- Pattern making -Importance, Terminology used in Pattern making
- Methods of pattern making -Flat pattern, Drafting, Draping and Grading
- Rules of pattern making
- Pivotal point & style reading
- Fitting- principles of good fit, various fitting problems and its remedies

UNIT IV Preparation of fabric for cutting, layouts

- Fabric grain
- Preparatory steps- preshrinking, straightening & truing
- Layouts for patterns- general guidelines, basic layouts-lengthwise, partial lengthwise, crosswise, double fold, open, combination fold, Pinning, marking, cutting
- Layout for special fabrics- unidirectional, bold & large prints, plaids, stripes & checks
- Fabric widths & calculation of material required

UNIT V. Clothing – functions,

- Factors considered in selection of fabrics
- Family Clothing & household linen - selection for men, women, college going and children, carpets and upholstery etc.
- Selection of Ready-made garments and their evaluation
- Planning wardrobe

PRACTICAL

1. Sewing Machine description, use, care and repairs
2. Sewing equipment and Accessories
 - Simple Construction Techniques-Basic, Decorative and Embroidery Stitches
 - Seam and seam finishes, Neck line finishes, Plackets, Pockets and Sleeves
 - Fullness- Disposal of fullness- Dart, Gathers, Pleats, Tucks and Flare
 - Fasteners: Hook and eye, press button, Velcro, button.
3. Taking body measurements and preparing basic bodice block
4. Drafting, cutting, stitching and finishing a baby layette (zabala, nappy, bib or feeder)
5. Drafting, cutting, stitching and finishing of frock

6. Adaptation of bodice block into apron

REFERENCES:

1. Lewis 'comparative clothing construction Techniques.'
2. ShobenAumstrong 'Pattern cutting and making up'
3. Gohl EPG &Vilensky L.D. 'Textile Science' CBS publishers &Distributor, Delhi.
4. NatalliaBrary, 'More Dress pattern Designing'
5. Erwin Marbel D. clothing for moderns.

Paper V-FOUNDATION OF FABRIC AND APPAREL CONSTRUCTION

Theory - 4 lec / week

Practical - 3 hrs/week

Theory- 100 marks

Practical-50 marks

Objectives

1. To familiarize the students with terminology related to textiles and apparel.
2. To know Production, Properties, Use and Care of the different fabric
3. To introduce the basic methods of Apparel construction

THEORY

UNIT-1 Introduction to Textiles fiber: Importance of study of textiles to the consumer

- Fibers – definition
- Polymerization
- Primary Properties of fiber
- Secondary Properties
- Classification of Textile fibers

UNIT-2.A brief study of Classification, Production, Properties, Use and Care of the following fibers:

- a) Natural cellulosic vegetable fibers – cotton, linen
- b) Natural protein animal fibers-wool, silk
- c) Man made fibers – Rayon and acetate
- d) Synthetic fibers-Nylon, Polyester
- e) Mineral fibers- glass, asbestos and metallic fibers
- f) Mixtures and blends

UNIT-3 Yarn construction

- Types of Yarn - spun/filamentous, Mono/ multi, single/ply/ cord
- Yarn twist – types
- Yarn numbering system
- Yarn Manufacturing -Spinning- Mechanical and Chemical spinning
- Classification of yarn, their properties and uses
 - 1) simple, 2) novelty 3) bulk and textured yarn

UNIT-4 Fabric Constructions

- Weaving – Definitions, Terms, Basic weaving operation
- Types of weave- Basic and Decorative, Dobby and Jacquard attachment
- Knitting-Types of knit stitches
- Non -Woven - Felting, Bonded, Braiding and Nett

UNIT -5. Fundamentals of fabric Construction

- Sewing Machine description, use, care and repairs

- Sewing equipment and Accessories -French curve, Hip curve, L- square, Pattern making paper etc.
- Introduction to different fabric term- Muslin, Grain, Selvage, Bowing and Skewing,Dart, dart legs, dart intake, trueing and blending, plumb line, vertical lines, horizontal lines, perpendicular lines, symmetric and asymmetric lines, style number, pattern size.

UNIT-6.Pattern Making- Concepts and Terms –Notch, Bust point, Dart, Dart intake, Trueing, Blending, Pin marking, Tape marking

- Methods of pattern making -Flat pattern, Drafting, Draping and Grading
- Pivotal point & style reading
- Fitting- principles of good fit, various fitting problems and its remedies.

UNIT 7.Preparation of Fabric for Garment Construction

- Fabric preparation- Straightening, Shrinking, Pressing
- Taking body measurement

Unit 8.Stiches- Basic and Decorative Stitches

- Seam Finishes -Types of seam and suitability for different fabrics,
- Fullness -Reasons for introducing fullness s
- Types of fullness- darts, pleats, tucks, flares, gusset, gathers and shirrs, frills and ruffles
- Neckline finishes – Types of collars
- Plackets, Pockets, Sleeves

PRACTICALS

UNIT 1. Textile chemistry

1. Fiber identification- Physical, microscopic, burning and chemical test.
2. Weave identification
3. Fabric identification

UNIT 2.Clothing construction

1. Sewing Machine description, use, care and repairs
2. Sewing equipment and Accessories
3. Simple Construction Techniques
 - Basic, Decorative and Embroidery Stitches
 - Seam and seam finishes
 - Neck line finishes
 - Plackets, Pockets and Sleeves
 - Fullness- Disposal of fullness- Dart, Gathers, Pleats, Tucks and Flare
 - Fasteners: Hook and eye, press button, velcro, button.

UNIT- 3. Fabric Construction

1. Preparation of Fabric for Garment Construction
2. Construction of Sari Petticoat,House coat and Frock

3. Market survey to see the availability of different yarns and fabrics of different weaves.

References:

1. Introductory Textile Science, M L Joseph
2. Textile fabrics and their selection, Isabel B Wingate and June F Mohler
3. Textiles by Hollen Saddler- Macmillian publishing company, New York
4. Understanding Textiles by P S Tortora-Prentice Hall Inc., New Jersey
5. Fiber to fabric by Corbman.
6. Text Book of clothing Textiles and Laundry, Sushma Gupta, NeeruGarg, RenuSaini

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
Paper VI: HOUSING AND INTERIOR DECORATION

Theory - 4 lec / week
Practical -3 hrs/week

Theory- 100 marks
Practical-50 marks

Learning Objectives

1. To learn about various aspects of Housing and Interior Decoration
2. To learn application of Ergonomic principle in planning family life space
3. To know about care and maintenance of house

THEORY

Unit-1 Introduction to Housing

- Importance of Housing and types of houses
- Functions of a house – Its influence on health and family living.
- Housing needs in different stages of family lifecycle and economic levels.
- Housing choice - Ownership Versus Renting-Advantages and Disadvantages
- Selection of site- Importance, Factors influencing the selection of Site

Unit-2 Building Plan for Family Living

- Principles of Planning and importance of planning space
- Orientation – importance, definitions –Aspect, Prospect, Privacy, Grouping, Roominess, Flexibility, Circulation, Sanitation, Light, Ventilation, Stuffiness, Cleanliness
- Factors to be considered while planning different rooms and ways to attain Good Orientation in Residential Building
- Designing Circulation Spaces -Staircase, Elevator / Lift, Hallways / Corridors, Driveways and Walkways
- Practical considerations of Water supply, Electricity, Plumbing, and drainage facilities.

Unit-3 Ergonomics in Planning for family life space

- Ergonomics - Meaning and Significance, aspects of ergonomics
- Application of ergonomic principles in planning life space-Factors and practical consideration
- Designing Service Space – Kitchen, Planning for efficient Kitchen, Kitchen layout
- Planning for efficient work centers and storage areas in the kitchen, bathroom, laundry and other areas of the house.

Unit-4 Interior Decoration- Meaning and importance and development of good taste

- Element of design- Line, form, colour, texture and lighting.
- Types of design.

- Art principles –Harmony, Balance, Rhythm, Emphasis and proportions – Application of art principles and elements of design in improving the appearance of home.
- Principle for table setting

Unit-5Furnishing and Accessories -Types and functions.

- Factors to be considered for selection and arrangement of furniture
- Interior and exterior fitting and fixture- type and importance

Unit-6 Flower arrangement – Shapes, Styles, techniques- Ikebana, Dry material, Bonsai,

- Points to be considered while selecting flowers and aids (containers, Holders, Mesh, Scissors, tape etc.,) for arranging flowers
- Dry flower arrangement-preserving flowers (both fresh and dry) bydifferentmethod.

Unit-7 Household Equipment's

- Brief Study of Equipment in Indian House- Important electrical and non-electrical energy saving appliances- Refrigerator, Vaccum cleaner, washing machine, mixer andgrinder, toaster
- Smokeless chullah and Biogas- importance, construction and principle
- Factors to be considered for choice and purchase of equipment's

Unit- 8 Care and Maintenance House

- Cleaning and care of metals and non-metals
- Eradication of household pests
- Prevention of accidents and safety measure in home

PRACTICALS

Unit 1. Housing

1. Learning to read House plan – Identification of Symbols
 - Site plan
 - Floor plan
 - Elevation
 - Perspective view
 - Land scape plan
2. Drawing house plan for different income groups
3. Drawing different types of Kitchen plan

Unit 2. Interior Decoration

1. Drawing Different design using Art Principle
2. Colour- Painting Prang Color chart
3. Principle of Table setting-Indian and western
4. Flower arrangement
5. Furniture arrangement
6. Preparation of Resource file

REFERENCE BOOKS

6. Julius Panero and Martin Zelink, (1979), Human Dimensions and Interior Space, 1st edition, Watson –Guptil Publications, Newyork, pp 23,131-163
7. M.N. Joglekar and Neelkamal Sharma, Housing Architectural Details, Hudco publication, New Delhi.
8. Art in Everyday Life - Harriet Goldstein Mac Millan Co. New York.
9. Colour Trends- Vol. I, Ethnic, Japanese, High- Tech Colors, AIM Creative Products Pvt. Ltd.
10. Colour- A guide to basic facts and concepts, John Wiley & Sons, New York.

BIOTECHNOLOGY

ANNEXURE - I

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

(w. e. f. 2016-2017)

DEPARTMENT OF BIOTECHNOLOGY

SECOND YEAR – III SEMESTER SYLLABUS

Paper III-BIOPHYSICAL TECHNIQUES & IMMUNOLOGY

Module I - Spectrophotometry:

Concept of electromagnetic radiation, spectrum of light, absorption of electromagnetic radiations, Concept of chromophores and auxochrome in absorption of electromagnetic radiations, Absorption spectrum and its uses, Beer's law-derivation and deviations, extinction coefficient. Difference between spectrophotometer and colorimeter.

Module II – Applications of spectroscopy :

- Principles and applications of UV and visible spectrophotometry.
- Spectrofluorometry: Principle, instrumentation and applications.
- Absorption & emission flame photometry: Principle, instrumentation and application.
- Principles & applications of IR, NMR and Mass spectrometry

Module III- Chromatography:

Partition principle, partition coefficient, nature of partition forces.

Brief account of paper chromatography, thin layer chromatography and column chromatography.

Gel filtration: Concept of distribution coefficient, types of gels and glass beads, applications.

Ion-exchange chromatography: Principle & applications.

Affinity chromatography :Principle & applications

Gas chromatography (GC) and high pressure liquid chromatography (HPLC).

Module IV -Microscopy:

Compound microscopy: Numerical aperture and its importance, resolving power, oil immersion objectives and their significance.

Principles and applications of dark field, phase contrast, fluorescent microscopy. Electron microscopy: Principle and applications of TEM and SEM .

Module V – Immunology :

Immune system, Organs and cells of immune system Immunity, innate immune mechanism

Acquired immune mechanism, Antigen, Antigenicity(factors affecting antigenicity)

Humoral immunity, main pathways of complement system.

Module VI :Antibodies & Types of Immunity :

Antibody structure and classes, Antibody diversity, Genes of antibodies Cell mediated immunity:

TC mediated immunity, NK cell mediated immunity, ADCC, delayed type hypersensitivity, cytokines and brief idea of MHC

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
(w. e. f. 2016-2017)

DEPARTMENT OF BIOTECHNOLOGY

SECOND YEAR – IV SEMESTER SYLLABUS

Paper IV – BIOPHYSICAL TECHNIQUES& IMMUNOLOGY- II

Module I - Electrophoresis :

- a) Migration of ions in electric field, Factors affecting electrophoretic mobility.
- b) Gel electrophoresis: -Types of gels, Solubilizers, Procedure, Detection, Recovery & Estimation of macromolecules.
- c) SDS-PAGE electrophoresis: -Applications (determination of molecular weight of protein, molecular biology applications).
- d) Isoelectric focusing & Pulsed-field gel electrophoresis. -Principle & applications.

Module II - Isotopic tracer technique:

- a) Radioactive & stable isotopes, rate of radioactive decay. Units of radioactivity.
- b) Measurement of radioactivity: -Ionization chambers, proportional counters, Geiger-Muller counter (basic principle, instrumentation and technique).

Module III- Applications of radioisotopes:

Principles of tracer technique, advantages and limitations, applications of isotopes in biotechnology (distribution studies, metabolic studies, isotope dilution technique, metabolic studies, clinical applications, autoradiography).

Module IV -

Centrifugation:

- a) Basic principles, concept of RCF, types of centrifuges (clinical, high speed and ultra centrifuges).
- b) Preparative centrifugation: Differential and density gradient centrifugation, applications (Isolation of cell components).
- c) Analytical centrifugation: Sedimentation coefficient, determination of molecular weight by sedimentation velocity and sedimentation equilibrium methods.

Module IV- Hypersensitivity :

Hypersensitivity and vaccination :General features of hypersensitivity, various types of hypersensitivity, Vaccination: Discovery ,principles, significance. Concept of autoimmunity.

Module V - Immunological Techniques :

Antigen-antibody reactions :Precipitation , agglutination , complement fixation, immune diffusion, ELISA. Hybridoma technology: Monoclonal antibodies and their applications in immuno diagnosis.

Recommended Books:

1. Biochemistry - By Dr. U. Satyanarayana, U. Chakrapani
2. Biochemistry - By J.L. Jain
3. Biochemistry - By Conn and Stumpf
4. Biochemistry - By Lehninger
5. Medical Biochemistry- S. Ramakrishnan, R. Rajan, and K.G. Prasannan (Orient Longman)
6. Biochemistry - By Stryer
7. Biochemistry - By Voet and Voet
8. Biochemistry (Jaypee) - By Vasudevan
9. Biochemistry - By David Rawn
10. General Biochemistry - By J.H. Well
11. Biochemistry - By K. Trehan
12. Biochemical Methods - By S. Sadasivam and A. Manickam
13. An introduction to Practical Biochemistry - By T. Plummer
13. Experimental Biochemistry - A Student Companion - By V. Deshpande and B. Sasidhar Rao
14. Practical Biochemistry - By Upadhyay, Wilson and Wilson, Wilson & Walker
15. Biochemistry - Viva Series
16. Cell and Molecular Biology - By De Robertis
17. Cell and Molecular Biology - By Lodish
18. Cell Biology and Genetics - By P.K. Gupta
19. Biotechnology - By K. Trehan
20. Biotechnology –1 - By R.S. Setty and G.R. Veena
21. Biotechnology – II - By R.S. Setty and V. Sreekrishna
22. Cell Biology - By S.C. Rastogi (New Age International (P) Ltd)
23. Immunology – Ivan Roitt
24. Immunology – Kuby
25. Cellular and molecular immunology – Abul Abbas
26. Microbiology by M.J. Pelczar, E.S.N. Chan and N.R. Kreig, McGraw Hill.
27. General Microbiology by H.G. Schlegel Cambridge University Press.
28. General Microbiology by Stanier, R.Y, J.L. Ingraham, M.L. Wheelis & P.R. Painter
29. Microbiology – concepts and Application. John Wiley and Sons, New York, 1988.

ANNEXURE – III

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

SECOND YEAR BIOTECHNOLOGY

(w.e.f. 2016-2017)

PRACTICAL PAPER – II

Immunology & Biophysical techniques

1. Spectrophotometric analysis of DNA denaturation.
2. Determination of absorption spectrum of oxy- and deoxyhemoglobin and methemoglobin.
3. Protein estimation by E280/E260 method.
4. Paper chromatography of amino acids/sugars.
5. TLC of sugars/amino acids.
6. Cellular fractionation and separation of cell organelles using centrifuge
7. Estimation of DNA by diphenylamine method
8. Estimation of RNA by orcinol method
9. Validity of Beer's law for colorimetric estimation of creatinine.
10. Absorption spectrum of NAD & NADH
11. Titration of a mixture of strong & weak acid
12. Gel electrophoresis of nucleic acids.
13. SDS-PAGE of an oligomeric protein.
14. Antigen-antibody reaction- determination of Blood group
15. Pregnancy test
16. Widal test
17. Ouchterlony immune diffusion
18. Radial immunodiffusion

Biochemistry

COURSE -III: BIOENERGETICS AND METABOLISM I

Unit- I : Bioenergetics

10 hours

Bioenergetics: Thermodynamic principles – Chemical equilibria; free energy, enthalpy (H), entropy (S). Free energy change in biological transformations in living systems; High energy compounds. Energy, change, oxidation-reduction reactions.

Unit II: Biological Oxidations in Mitochondria

11hours

Organization of electron carriers and enzymes in mitochondria. Classes of electron-transferring enzymes, inhibitors of electron transport. Oxidative phosphorylation. Uncouplers and inhibitors of oxidative phosphorylation. Mechanism of oxidative phosphorylation.

Unit- III : Techniques employed in metabolic studies

12 hours

Broad outlines of Intermediary metabolism, methods of investigation, Intermediary metabolism in vivo studies such as analysis of excretion, Respiratory exchange, Removal of organs and perfusion studies, in vitro studies such as tissue slice techniques; Homogenates and purified enzyme systems; isotope tracer studies, use of inhibitors and antimetabolites.

Unit- IV : Carbohydrate Metabolism

15 hours

Concept of anabolism and catabolism. Glycolytic pathway, energy yield. Fate of pyruvate- formation of lactate and ethanol, Pasteur effect. Citric acid cycle, regulation, energy yield, amphipathic role. Anaplerotic reactions. Glycogenolysis and glycogenesis. Pentose phosphate pathway. Gluconeogenesis. Photosynthesis- Light and Dark reactions, Calvin cycle, C₄ Pathway. Disorders of carbohydrate metabolism.

Unit- V : Lipid Metabolism

12 hours

Catabolism of fatty acids (β - oxidation) with even and odd number of carbon atoms, Ketogenesis, *de novo* synthesis of fatty acids, elongation of fatty acids in mitochondria and microsomes, Biosynthesis and degradation of triacylglycerol and lecithin. Biosynthesis of cholesterol. Disorders of lipid metabolism.



CORE COURSE-IV: METABOLISM II AND BIOCHEMICAL TECHNIQUES

Unit I: Nitrogen Fixation

13hours

Nitrogen cycle, Non-biological and biological nitrogen fixation, Nitrogenase system. Utilization of nitrate ion, Ammonia incorporation into organic compounds. Synthesis of glutamine and regulatory mechanism of glutamine synthase.

Unit-II : Metabolism of Amino acids

15 hours

General reactions of amino acid metabolism- transamination, decarboxylation and deamination, Urea cycle and regulation, Catabolism of carbon skeleton of amino acids- glycogenic and ketogenic amino acids. Metabolism of glycine, serine, aspartic acid, methionine, phenylalanine and leucine. Biosynthesis of creatine. Inborn errors of aromatic and branched chain amino acid metabolism.

Unit-III: Metabolism of Nucleic acid and heme

15 hours

Biosynthesis and regulation of purine and pyrimidine nucleotides, *de novo* and salvage pathways. Catabolism of purines and pyrimidines. Biosynthesis of deoxyribonucleotides- ribonucleotide reductase and thymidylate synthase and their significance. Disorders of nucleotide metabolism- Gout, Lesch- Nyhans syndrome. Biosynthesis and degradation of heme.

Unit-IV: Biochemical Techniques I

15 hours

Methods of tissue homogenization: (Potter-Elvehjem, mechanical blender, sonicator and enzymatic).

Principle and applications of centrifugation techniques- differential, density gradient. Ultra-centrifugation- preparative and analytical.

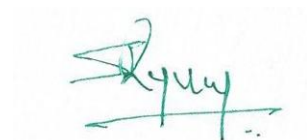
Principle and applications of chromatographic techniques- paper, thin layer, gel filtration, ion- exchange and affinity chromatography. Elementary treatment of an enzyme purification.

Electrophoresis- principles and applications of paper, polyacrylamide (native and SDS) and agarose gel electrophoresis.

Unit-V: Biochemical Techniques II

12 hours

Colorimetry and Spectrophotometry- Laws of light absorption- Beer-Lambert law. UV and visible absorption spectra, molar extinction coefficient, biochemical applications of spectrophotometer. Principle of fluorimetry. Tracer techniques: Radio isotopes, units of radio activity, half-life, β and γ - emitters, use of radioactive isotopes in biology.



LIST OF PRACTICALS
Paper - II

3rd SEMESTER PRACTICAL – QUANTITATIVE ANALYSIS

45 hrs

1. Estimation of amino acid by Ninhydrin method.
2. Estimation of protein by Biuret method.
3. Estimation of protein by Lowry method.
4. Estimation of glucose by DNS method.
5. Estimation of glucose by Benedict's titrimetric method.
6. Estimation of total carbohydrates by Anthrone method.

4TH SEMESTER PRACTICAL – BIOCHEMICAL TECHNIQUES

45 hrs

1. Isolation of egg albumin from egg white.
2. Isolation of cholesterol from egg yolk.
3. Isolation of starch from potatoes.
4. Isolation of casein from milk.
5. Separation of amino acids by paper chromatography.
6. Separation of serum proteins by paper electrophoresis.
7. Separation of carbohydrates by TLC

MATHEMATICS

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

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

SECOND YEAR B.Sc. MATHEMATICS

THIRD SEMESTER

CORE COURSE-III: ABSTRACT ALGEBRA

(w. e. f. 2016-2017)

UNIT – 1 : (10 Hrs) GROUPS :-

Binary Operation – Algebraic structure – semi group-monoid – Group definition and elementary properties Finite and Infinite groups – examples – order of a group. Composition tables with examples.

UNIT – 2 : (14 Hrs) SUBGROUPS :-

Complex Definition – Multiplication of two complexes Inverse of a complex-Subgroup definition – examples-criterion for a complex to be a subgroups.

Criterion for the product of two subgroups to be a subgroup-union and Intersection of subgroups.

Co-sets and Lagrange's Theorem :-

Cosets Definition – properties of Cosets–Index of a subgroups of a finite groups–Lagrange's Theorem.

UNIT –3 : (12 Hrs) NORMAL SUBGROUPS :-

Definition of normal subgroup – proper and improper normal subgroup–Hamilton group – criterion for a subgroup to be a normal subgroup – intersection of two normal subgroups – Sub group of index 2 is a normal sub group – simple group – quotient group – criteria for the existence of a quotient group.

UNIT – 4 : (10 Hrs) HOMOMORPHISM :-

Definition of homomorphism – Image of homomorphism elementary properties of homomorphism – Isomorphism – automorphism definitions and elementary properties–kernel of a homomorphism – fundamental theorem on Homomorphism and applications.

UNIT – 5 : (14 Hrs) PERMUTATIONS AND CYCLIC GROUPS :-

Definition of permutation – permutation multiplication – Inverse of a permutation – cyclic permutations – transposition – even and odd permutations – Cayley's theorem.

Cyclic Groups :-

Definition of cyclic group – elementary properties – classification of cyclic groups.

Prescribed Text Book: A text book of Mathematics for B.A. / B.Sc. by B.V.S.S. SARMA and others, Published by S.Chand & Company, New Delhi.

Reference Books :

1. Abstract Algebra, by J.B. Fraleigh, Published by Narosa Publishing house.

2. Modern Algebra by M.L. Khanna.

Suggested Activities:

Seminar/ Quiz/ Assignments/ Project on Group theory and its applications in Graphics and Medical image Analysis

ANNEXURE - IV
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2016-17)
SECOND YEAR B.Sc. MATHEMATICS
FOURTH SEMESTER
CORE COURSE-IV: REAL ANALYSIS(w. e. f. 2016-2017)

UNIT – I (12 hrs) : REAL NUMBERS :

The algebraic and order properties of $\mathbb{R}$, Absolute value and Real line, Completeness property of $\mathbb{R}$, Applications of supreme property; intervals. No. Question is to be set from this portion.

Real Sequences: Sequences and their limits, Range and Boundedness of Sequences, Limit of a sequence and Convergent sequence.

The Cauchy's criterion, properly divergent sequences, Monotone sequences, Necessary and Sufficient condition for Convergence of Monotone Sequence, Limit Point of Sequence, Subsequences and the Bolzano-weierstrass theorem – Cauchy Sequences – Cauchy's general principle of convergence theorem.

UNIT –II (12 hrs) : INFINITIE SERIES :

Series : Introduction to series, convergence of series. Cauchy's general principle of convergence for series tests for convergence of series, Series of Non-Negative Terms.

1. P-test
2. Cauchy's n^{th} root test or Root Test.
3. D'-Alemberts' Test or Ratio Test.
4. Alternating Series – Leibnitz Test.

Absolute convergence and conditional convergence, semi convergence.

UNIT – III (12 hrs) : CONTINUITY :

Limits : Real valued Functions, Boundedness of a function, Limits of functions. Some extensions of the limit concept, Infinite Limits. Limits at infinity. No. Question is to be set from this portion.

Continuous functions : Continuous functions, Combinations of continuous functions, Continuous Functions on intervals, uniform continuity.

UNIT – IV (12 hrs) : DIFFERENTIATION AND MEAN VALUE THEORMS :

The derivability of a function, on an interval, at a point, Derivability and continuity of a function, Graphical meaning of the Derivative, Mean value Theorems; Role's Theorem, Lagrange's Theorem, Cauchy's Mean value Theorem

UNIT – V (12 hrs) : RIEMANN INTEGRATION :

Riemann Integral, Riemann integral functions, Darboux theorem. Necessary and sufficient condition for $\mathbb{R}$ – integrability, Properties of integrable functions, Fundamental theorem of integral calculus, integral as the limit of a sum, Mean value Theorems.

Prescribed Text Book: A Text Book of B.Sc Mathematics by B.V.S.S. Sarma and others, Published by S. Chand & Company Pvt. Ltd., New Delhi.

Reference Books :

1. Real Analysis by Rabert & Bartely and .D.R. Sherbart, Published by John Wiley.

2. Elements of Real Analysis as per UGC Syllabus by Shanthi Narayan and Dr. M.D. Raisingkania Published by S. Chand & Company Pvt. Ltd., New Delhi.

Suggested Activities:

Seminar/ Quiz/ Assignments/ Project on Real Analysis and its applications

ANNEXURE – IV(A)
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2016-17)
SECOND YEAR - FOURTH SEMESTER
FOR ALL DEGREE PROGRAMMES
FOUNDATION COURSE: ANALYTICAL SKILLS (w. e. f. 2016-2017)

UNIT-I: Data Analysis: The Data given in a table, Graph, Bar Diagram, Pie chart, venn diagram or a passage is to be analysed and the questions pertaining to the data are to be answered.

Unit-II: Sequence and Series: Analogies of numbers and alphabets completion of blank spaces following the pattern A:b::C:d relationship odd thing out, missing number in the sequence or series

Unit-III: Arithmetic Ability: Algebraic operations BODMAS, Fractions, Divisibility rules, LCM, GCD(HCF).

Date Time and Arrangement Problems: Calendar problems, Clock problems, Blood relationship.

Unit-IV: Quantitative Aptitude: Averages, ratio and Proportion, Problems on ages, time, distance, speed.

Unit-V: Business Computations: percentages, profit & loss, Partnership, simple compound interest.

Prescribed Text Book: Quantitative Aptitude for Competitive exams By R S Agarwal.

Reference Books: 1. Quantitative Aptitude and Reasoning By R V Praveen, PHI Publishers.
2. Quantitative Aptitude for competitive exams By Abhijith Guha ,Tata Mc.Gra Hill.

Physics

ANNEXURE - III

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

CHOICE BASED CREDIT SYSTEM (w.e.f. 2015-16)

SECOND YEAR B.Sc. PHYSICS (FOR MATHEMATICS COMBINATIONS)

THIRD SEMESTER

CORE COURSE-III: THERMODYNAMICS AND WAVE OPTICS

(w. e. f. 2016-2017)

Work load: 60 hrs per semester

4 hrs/week

UNIT-I : Kinetic theory of gases

11 hrs

Introduction –Deduction of Maxwell’s law of distribution of molecular speeds, experimental verification - Toothed wheel experiment. Transport phenomena-Viscosity of gases-thermal conductivity-diffusion of gases.

UNIT-II: Thermodynamics

12hrs

Introduction and work done in Isothermal and adiabatic processes- First law of thermodynamics - applications, Reversible and irreversible processes-Carnot’s engine and its efficiency-Carnot’s theorem-Second law of thermodynamics, Kelvin’s and Clausius statements-Entropy, physical significance –Change in entropy in reversible and irreversible processes-Entropy and disorder-Entropy of Universe-Temperature-Entropy (T-S) diagram

UNIT-III: Thermodynamic potentials and Maxwell’s equations

10hrs

Thermodynamic potentials-Derivation of Maxwell’s thermodynamic relations- Clausius-Clayperon’s equation and its application-Derivation for ratio of specific heats-Derivation for difference of two specific heats for perfect gas.

UNIT-IV: Aberrations

7 hrs

Introduction – monochromatic aberrations, spherical aberration (no derivation), methods of minimizing spherical aberration, coma, astigmatism and curvature of field, distortion, Chromatic aberration-the achromatic doublet, Removal of chromatic aberration by a separated doublet.

UNIT V: Interference-I

10hrs

Principle of superposition-coherence- temporal coherence and spatial coherence-conditions for interference of light, Fresnel’s biprism-determination of wavelength of light, Determination of thickness of a thin sheet of transparent material using biprism –Lloyd’s mirror experiment.

Lasers: introduction, spontaneous emission-stimulated emission-population inversion. Laser principle-Einstein coefficients-Types of lasers-He-Ne laser-ruby laser-applications of lasers.

UNIT VI: Interference-II

10 hrs

Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (cosine law) –colors of thin films-Non reflecting films-interference by a plane parallel film illuminated by a point source- Interference by a film with two non-parallel reflecting surfaces (Wedge shaped film) - determination of diameter of wire, Newton's rings in reflected light - Determination of wavelength of monochromatic light, Michelson interferometer-types of fringes -Uses- Determination of wavelength of monochromatic light, Difference in wavelength of sodium D_1 , D_2 lines and thickness of a thin transparent plate.

Reference Books:

1. II BSc Physics -Telugu Academy, Hyderabad
2. Fundamentals of Physics. Halliday/Resnick/Walker.C. Wiley India Edition 2007
3. Text Book of +3 Physics – Samal, Mishra & Mohanty, National Library, Min.of Culture, Govt of India
4. Heat and Thermodynamics- MS Yadav, Anmol Publications Pvt. Ltd, 2000
5. University Physics, HD Young, MW Zemansky, FW Sears, Narosa Publishers, New Delhi
6. Unified Physics Vol.II Optics & Thermodynamics – Jai Prakash Nath & Co.Ltd., Meerut
7. Heat, Thermodynamics and Statistical Physics-N Brij Lal, P Subrahmanyam, PS Hemne, S.Chand & Co., 2012
8. Thermodynamics - R.C. Srivastava, Subit K. Saha & Abhay K. Jain Eastern Economy Edition.
9. Optics – FA Jenkins and HG White, McGraw-Hill
10. A Text Book of Optics-N Subramanyam, L Brijlal, S.Chand & Co.
11. Principles of Optics- BK Mathur, Gopala Printing Press, 1995
12. Fundamentals of Optics, H.R. Gulati and D.R. Khanna, 1991, R. Chand Publication

ANNEXURE - IV
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2015-16)
SECOND YEAR B.Sc. PHYSICS (FOR MATHEMATICS COMBINATIONS)
FOURTH SEMESTER
CORE COURSE-IV: RADIATION PHYSICS AND OPTICS
(w. e. f. 2016-2017)

Work load: 60 hrs per semester

4 hrs/week

UNIT-I: Low temperature Physics

12 hrs.

Introduction-Joule Kelvin effect-liquefaction of gas using porous plug experiment-Distinction between Joule expansion, adiabatic expansion and Joule Thomson expansion-Expression for Joule Thomson cooling-Liquefaction of helium, Kammerling Onne's method, Kapitza's method-Adiabatic demagnetization-Working of refrigerator- vapour compression machine, Properties of He-I & He-II, properties of substances at low-temperature

UNIT-II : Quantum theory of radiation

12 hrs

Blackbody-Ferry's black body-distribution of energy in the spectrum of black body-Wein's displacement law-statement and formula, Wein's law-statement and formula, Rayleigh-Jean's law-statement and formula -Quantum theory of radiation-Planck's law- Different laws from Planck's radiation law, Measurement of radiation-Types of pyrometers-Disappearing filament optical pyrometer - Angstrom's pyro-heliometer-determination of solar constant, effective temperature of Sun.

UNIT-III : Diffraction

10hrs

Introduction, distinction between Fresnel and Fraunhofer diffraction, Fraunhofer diffraction –Diffraction due to single slit and circular aperture-Limit of resolution-Rayleigh's criterion of resolution, Limit of resolution of a telescope, Fraunhofer diffraction due to doublet slit-Fraunhofer diffraction pattern with N slits (diffraction grating), Resolving power of grating-Determination of wavelength of light.

UNIT-IV: Diffraction -II & Holography

10 hrs

Fresnel's half period zones-area of the half period zones-zone plate-comparison of zone plate with convex lens-phase reversal zone plate-diffraction at a straight edge-difference between interference and diffraction.

Holography: Basic principle of holography-Gabor hologram and its limitations, holography applications.

UNIT V: Polarisation**10 hrs**

Polarized light: methods of polarization - polarization by reflection, refraction, double refraction, selective absorption, scattering of light-Brewster's law-Malus law-Nicol prism, polarizer and analyzer-Quarter wave plate, Half wave plate-optical activity, Laurent's half shade polarimeter.

UNIT-VI: Fiber Optics**06hrs**

Introduction- different types of fibers, single mode and multi mode optical fiber, step index and graded index optical fiber, fiber materials, principles of fiber communication (qualitative treatment only), advantages of fiber optic communication.

Reference Books:

1. II BSc Physics -Telugu Academy, Hyderabad
2. Fundamentals of Physics. Halliday/Resnick/Walker.C. Wiley India Edition 2007
3. Text Book of +3 Physics – Samal, Mishra & Mohanty, National Library, Min.of Culture, Govt of India
4. Heat and Thermodynamics- MS Yadav, Anmol Publications Pvt. Ltd, 2000
5. University Physics, HD Young, MW Zemansky, FW Sears, Narosa Publishers, New Delhi
6. Unified Physics Vol.II Optics & Thermodynamics – Jai Prakash Nath & Co.Ltd., Meerut
7. Heat, Thermodynamics and Statistical Physics-N Brij Lal, P Subrahmanyam, PS Hemne, S.Chand & Co., 2012
8. Thermodynamics - R.C. Srivastava, Subit K. Saha & Abhay K. Jain Eastern Economy Edition.
9. Optics – FA Jenkins and HG White, McGraw-Hill
10. A Text Book of Optics-N Subramanyam, L Brijlal, S.Chand & Co.
11. Principles of Optics- BK Mathur, Gopala Printing Press, 1995
12. Introduction of Lasers – Avadhanlu, S.Chand & Co.
13. Fundamentals of Optics, H.R. Gulati and D.R. Khanna, 1991, R. Chand Publication

ANNEXURE - VI
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2015-16)
SECOND YEAR B.Sc. PHYSICS (FOR MATHEMATICS COMBINATIONS)
(w.e.f. 2016-2017)

LIST OF PRACTICALS

Paper – II

1. Determination of radius of curvature of a given plano convex lens-Newton's rings method.
2. Resolving power of grating.
3. Study of optical rotation of a liquid –polarimeter.
4. Dispersive power of material of a prism.
5. Determination of wavelength of light using diffraction grating minimum deviation method.
6. Wavelength of light using diffraction grating-normal incidence method.
7. Resolving power of a telescope.
8. Refractive index of a liquid-hollow prism
9. Determination of thickness of a thin fiber by wedge method
10. Spectrometer- i-d curve.
11. Determination of refractive index of liquid-Boy's method.
12. Determination of wavelength of laser – Light diffraction grating
13. Thermal conductivity of bad conductor-Lee's method
14. Measurement of Stefan's constant.
15. Heating efficiency of electrical kettle with varying voltages.
16. Thermo emf- thermo couple potentiometer
17. Coefficient of thermal conductivity of copper- Searle's apparatus.
18. Temperature variation of resistance- thermister characteristics.
19. Thermal conductivity of Rubber

Computer Science

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

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

B.Sc. Three-Year Degree Course (Semester Wise)

Syllabus for IInd Year – IIIrd Semester.

Part – II : COMPUTER SCIENCE

Paper-III: OBJECT ORIENTED PROGRAMMING USING JAVA

No. of hours per week: 04

Max Marks: 75

UNIT-I

FUNDAMENTALS OF OBJECT – ORIENTED PROGRAMMING: Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, JavaFeatures: **OVERVIEW OF JAVA LANGUAGE:** Introduction, Simple Java program structure,Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **CONSTANTS, VARIABLES & DATA TYPES:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Symbolic Constants, Type casting, Getting Value of Variables, Standard Default values; **OPERATORS & EXPRESSIONS.**

UNIT-II

DECISION MAKING & BRANCHING: Introduction, Decision making with if statement, Simple if statement, if. Else statement, Nesting of,if. else statements, the else if ladder, the Switch statement, the conditional operator. **LOOPING:** Introduction, The While statement, The do-while statement, the for statement, Jumps in loops.

Andhra Pradesh State Council of Higher Education

CLASSES, OBJECTS & METHODS: Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method Overloading, Static members, Nesting of methods;

UNIT-III

INHERITANCE: Extending a class, Overloading methods, Final variables and methods, Final classes, Abstract methods and classes;

ARRAYS, STRINGS AND VECTORS: Arrays, One-dimensional arrays, Creating an Array, Two – dimensional arrays, Strings, Vectors, Wrapper classes;

UNIT -IV

INTERFACES: MULTIPLE INHERITANCE: Introduction, Defining interfaces, Extending Interfaces, implementing interfaces, Assessing interface variables;

PACKAGES: Introduction, Java API Packages, Using System Packages, Naming Conventions, Creating Packages, Accessing a Package, using a Package

UNIT-V

MULTITHREADED PROGRAMMING: Introduction, Creating Threads, Extending the

Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

MANAGING ERRORS AND EXCEPTIONS: Types of errors : Compile-time errors, Runtime Errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally Statement

UNIT-VI

APPLET PROGRAMMING: local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead State, Display state.

Reference Books:

1. E.Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill

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)
B.Sc. Three-Year Degree Course (Semester Wise)
Syllabus for IInd Year – IVth Semester.
Part – II: COMPUTER SCIENCE
Paper-IV: DATA STRUCTURES

No. of hours per week : 04

Max Marks :75

UNIT I

Concept of Abstract Data Types (ADTs) - Data Types, Data Structures, Storage Structures, and File Structures, Primitive and Non-primitive Data Structures, Linear and Non-linear Data Structures.

UNIT II

Linear Lists – ADT, Array and Linked representations, Pointers.

Arrays – ADT, Mappings, Representations, Sparse Matrices, Sets – ADT, Operations

Linked Lists: Single Linked List, Double Linked List, Circular Linked List, applications

UNIT III

Stacks: Definition, ADT, Array and Linked representations, Implementations and Applications

Queues: Definition, ADT, Array and Linked representations, Circular Queues, Dequeues, Priority Queues, Implementations and Applications.

UNIT IV

Trees: Binary Tree, Definition, Properties, ADT, Array and Linked representations, Implementations and Applications. Binary Search Trees (BST) – Definition, ADT, Operations and Implementations, BST Applications. Threaded Binary Trees, Heap trees.

UNIT V

Graphs – Graph and its Representation, Graph Traversals, Connected Components, Basic Searching Techniques, Minimal Spanning Trees, Dijkstra's Algorithm, Prim's Algorithm

UNIT- VI

Sorting and Searching: Selection, Insertion, Bubble, Merge, Quick, Heap sort, Sequential and Binary Searching.

REFERENCE BOOKS

1. D S Malik, Data Structures Using C++, Thomson, India Edition 2006.
2. Sahni S, Data Structures, Algorithms and Applications in C++, McGraw-Hill, 2002.
3. Samanta D, Classic Data Structures, Prentice-Hall of India, 2001.
4. Heilman G I., Data Structures and Algorithms with Object-Oriented Programming, Tata McGraw-Hill. 2002. (Chapters I and 14).
5. Tremblay P, and Sorenson P G, Introduction to Data Structures with Applications, Tata McGraw-Hill,

ANNEXURE – V
LIST OF PRACTICALS
KVR GOVT. COLLEGE (AUTONOMOUS): : KURNOOL

II B.Sc COMPUTER SCIENCE (Revised syllabus W.E.F.2016- 2017)

Practical II: Java with Data Structures Lab

Java Lab Cycle

1. Write a program to perform various String Operations
2. Write a program on class and object in java
3. Write a program to illustrate Function Overloading & Function Overriding methods in Java
4. Write a program to illustrate the implementation of abstract class
5. Write a program to implement Exception handling
6. Write a program to create packages in Java
7. Write a program on interface in java
8. Write a program to Create Multiple Threads in Java
9. Write a program to Write Applets to draw the various polygons
10. Write a program which illustrates the implementation of multiple Inheritance using interfaces in Java
11. Write a program to assign priorities to threads in java

Data Structures Lab Cycle

1. Write a Program to implement the Linked List operations
2. Write a Program to implement the Stack operations using an array.
3. Write Programs to implement the Queue operations using an array.
4. Write Programs to implement the Stack operations using a singly linked list.
5. Write Programs to implement the Queue operations using a singly linked list.
6. Write a program for arithmetic expression evaluation
7. Write a program to implement Double Ended Queue using a doubly linked list.
8. Write a program to search an item in a given list using Linear Search and Binary Search
9. Write a program for Quick Sort
10. Write a program for Merge Sort
11. Write a program on Binary Search Tree operations(insertion, deletion and traversals)
12. Write a program for Graph traversals

M.Sc. Botany

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

SEMESTER-I

UNIT – 1: ALGAE

General characters of algae -thallus diversity, pigmentation and life cycles. Recent trends in classification of algae - a general account. Salient features and classification of Cyanophyta (Cyanobacteria), Rhodophyta, Phaeophyta, Bacillariophyta and Chlorophyta. Economic importance of algae: Algae as food(single cell proteins); 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. Classification of extinct pteridophytes and 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: GYMNOSPERMS 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 - geological time scale; process of fossilization; types of fossils. Brief account on fossil algae, and bryophytes. Fossil pteridophytes – a general account. 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.

SUGGESTED READINGS:

1. Agashe S.N. 1995. Paleobotany. Oxford & IBH, NewDelhi
2. Bernard Goffinet & Jonathan Shaw. 2008. Bryophyte Biology. 2nd ed. Cambridge University Press.
3. Bhatnagar, S.P. & Alok Mitra. 1997. Gymnosperms. New Age Int. (P) Ltd.
4. Charles C. Beck and Charles B. Beck. (Ed). 1988. Origin and Evolution of Gymnosperms. CUP.
5. Chopra, R.N. & P.K. Kumar. 1988. Biology of Bryophytes. Wiley Eastern.
6. Graham, J.E., Lee, W. Wilox & L.E. Graham. 2008. Algae. 2nd ed. Benjamin Cummings
7. Sambamurthy AVSS. 2005. A Text Book of Bryophytes, Pteridophytes, Gymnosperms and Paleobotany. IK International Pvt. Ltd.
8. Sporne, K.R. 1965. Morphology of Gymnosperms. HUP, London
9. Sporne, K.R. 1976. Morphology of Pteridophytes. HUP, London
10. Van den Hoek , Christian D. Mann & H.M. Jahns et al. 1995. Algae, An introduction to phycology. Cambridge University Press.
11. Vashista, P.C. 2005. Gymnosperms. S.Chand & Co., New Delhi
12. Vashista, P.C. 2005. Pteridophyta. Revised ed., By Sinha and Anil. S. Chand & Co, New Delhi.
13. Vashishta, B.R., V.P.Singh & A.P. Sinha. 2012. Botany for Degree Students: Algae. 34th ed. S. Chand & Co, New Delhi.
14. Vashishta, B.R., A.K. Sinha & Adarsh Kumar . 2011. Botany for Degree Students Part III Bryophyta.. 3rd ed. S. Chand & Co, New Delhi

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
PAPER 102: 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:

1. Angiosperm Phylogeny Group website. 2015. Consult [www.apgweb](http://www.apgweb.org).
2. Gamble & Fischer 1915-35. Flora of Presidency of Madras. 3 Vols. BSMS, Dehradun
3. Heywood, V.H., RK Burmmitt, A. Culham, O. Seberg. 2007. Flowering plant Families of the World. Firefly books Ltd. New York.
4. 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.
5. Lawrence, G.H.M. 1951. Taxonomy of vascular plants. McMillan, New York.
6. Naik, V.N. 1992. Taxonomy of Angiosperms. 2nd Edn. Tata Mc Graw Hill Publications.
7. Pullaiah, T. 2005. Taxonomy of Angiosperms. Regency publications, New Delhi.
8. Pullaiah, T. et al. 1997. Flora of Andhra Pradesh. 4 Vols. Scientific Publishers, Jodhpur
9. Radford, A.E. et. al. Vascular plant systematic. Harper & Row. New York.
10. Ravi Prasad Rao, B. 2014. The Plant Directory. Anusha Publishers, Hyderabad.
11. Simpson, Michael G. 2006. Plant Systematics. Elsevier & Academic Press.
12. Singh, Gurucharan. 2005. Plant Systematics. Oxford & IBH. New Delhi.
13. Sivarajan, V.V. 1991. Introduction to Principles of Plant Taxonomy. Oxford & IBH. New Delhi.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

PAPER 103: PLANT DEVELOPMENT AND REPRODUCTION

UNIT –I: MERISTEMS, TISSUE SYSTEMS AND SHOOT DEVELOPMENT

Meristems, classification and types. Organization of shoot apical meristem. Simple and Complex tissues. Structure and development of xylem and phloem. Epidermal, ground and vascular tissue systems - cambium, laticifers, periderm, lenticels, Stem-anatomy of node, primary structure and secondary growth: annual rings, heart wood and sap wood , hard and soft wood, reaction wood. Anomalous secondary growth.

UNIT – II: ROOT, LEAF AND FLOWER DEVELOPMENT

Root-Organization of Root apical meristem (RAM), quiescent centre, vascular tissue differentiation. Primary structure and Secondary growth in roots. Leaf growth and differentiation-histology and development of angiosperm leaf . Floral meristems- development of flower with reference to Arabidopsis and Antirrhinum. Programmed cell death, ageing and senescence.

UNIT III: PLANT REPRODUCTION-MALE AND FEMALE GAMETOPHYTES

Microsporangium, microsporogenesis and male gametophyte. Anthers-structure and development of anther wall– anther tapetum- secretory and periplasmodial, role of tapetum. Male gametophyte development. Pollen wall –structure and development. Types of ovules, megasporogenesis. Embryosac – ultra structure, development and types: monosporic, bisporic and tetrasporic; nutrition of the embryosac. Pollination and fertilization: pollen–pistil interactions, double fertilization.

UNIT IV: ENDOSPERM, EMBRYO, POLYEMBRYONY AND APOMIXIS

Development of Endosperm-nuclear, cellular and helobial types; endosperm haustoria, composite and ruminant endosperm. Development of embryo in dicots- onagrad, asterad, chenopodiad, caryophyllad and solanad types; suspensor. Polyembryony – nucellar, integumentary, synergid, zygotic, suspensor and multiple types; twins and triplets; causes of polyembryony and applications. Apomixis- apospory, diplospory, pseudogamy, semigamy, parthenogenesis.

PRACTICALS

1. Examination of meristems
2. Study of tissues and tissue systems.
3. Study of internal organization of different types of stems and roots.
4. Study of internal organization of plants showing anomalous secondary growth.
5. Study of epidermal peels of leaves to study the development and structure of stomata for stomatal index.
6. Study of microsporogenesis and gametogenesis in anther sections.
7. Examination of anthers dehiscence and collection of pollen grains for

microscopic examination (maize, grasses, brinjal, Crotalaria, Tradescantia, Brassica, Petunia, etc.)

8. Study of pollen grains by acetolysis.

9. Dissection and mouting of endosperm and embryo showing developmental stages and haustoria.

SUGGESTED READINGS:

1. Bhojwani, S.S. and S.P. Bhatnagar 2002. The embryology of Angiosperms (4th ed.) Vikas Publication House, New Delhi.
2. Eames, A.J. and E.M. McDaniels. 1947. An Introduction to Plant Anatomy. Mc Graw Hill Book Company ,New York.
3. Esau. K. 1979. Anatomy of seed plants. John Willy & Sons
4. Fahn. A. 1992. Plant Anatomy 3rd Ed. Pergamon press,Oxford.
5. Johri, B.M. 1984, Embryology of Angiosperms Springer-Verlag ,Berlin.
6. Johri, B.M. 1981. Experimental embryology of vascular plants. Springer-Verlag, Berlin.
7. Maheswari,P.1980. An Introduction to the Embryology of Angiosperms, Tata, mccrawin
8. Pullaiah, T., K.C. Naidu, K. Laxmi Narayana and B. Hanumantha Rao. 2007. Plant Development , Regency Publications , New Delhi.
9. Raghavan, V. 1999. Developmental Biology of Flowering Plants. Springer Verlag, Berlin.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
PAPER 104: 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. Oxygen evolution and 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: NITROGEN METABOLISM

Biological nitrogen fixation : Symbiotic and Asymbiotic; Legume - Rhizobium symbiosis; nodule formation; mechanism of nitrogen fixation; mechanism of nitrate uptake, reduction and ammonia assimilation.

PRACTICALS

1. Determination of total chlorophyll content and a/b ratio in leaves.
2. Separation of chloroplast pigments into two or four groups. Record of their absorption spectra
3. Determination of cell permeability by using Beet Root tissues.
4. Determination of stomatal index and frequency in leaves
5. Determination of water potential of the tissue
6. Comparative anatomy of C3, C4 and CAM plants
7. Determination of Titrable acidity (TAN) in leaves of CAM plants
8. Determination of viability of different seed material.
9. Estimation of IAA by Solkowsky rection
10. Determination of membrane stability and chlorophyll stability index
11. Estimation of free proline in stressed plant samples.

SUGGESTED READINGS

1. Buchannan et al., 2001. Biochemistry and Molecular Biology of plants.
2. Delvin ,RM. 1969. Plant Physiology. Affiliated East West Newyork Ltd.
3. Dennis, DT., DB. Layzell, DD. Lefebyre & D. Turpin. 1997. Plant Metabolism . 2nd Ed. Addison Wesley Pub Co. New York
4. Govindjee, ed. 1982-83. Photosynthesis. Vol I & II. Academic Press Inc. New York.
5. Hopkins, W. 1998. Introduction to Plant Physiology. ELBS & Longman, Essex., England.
6. Kocchar and Gujral. 2012. Comprehensive Plant Physiology. Mac Milan Pub.
7. Raghavendra, S. 1998. Photosynthesis: A Comprehensive Treatise. Cambridge University Press, Cambridge, UK
8. Salisbury, F.B. and C. S.Ross. 1992. Plant Physiology. 4th Ed. Worsworth Publishing & Co. , Belmout , California.
9. Taiz and E.Zeiger. 1998. Plant Physiology. 2nd Edition. Sinauer Assosiates Inc Publishers, Massachuessets, USA
10. Thomas C. Moore. 1992. Biochemistry and Physiology of Hormones. Narosa .
Wilmer, C.M. & M. Fricker.1996. Stomata. 2nd Ed, Chapman Hall.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
SEMESTER –II

PAPER 201 : FUNGI, PLANT PATHOLOGY AND PLANT BREEDING

UNIT I: FUNGI

General characteristics and modern trends in fungal classification. Salient features and classification of Gymnomycota (Myxomycota). Mastigomycota, Deuteromycota and Amastigomycota (Zygomycotina, Ascomycotina, Basidiomycotina). Structure and reproduction of lichens and mycorrhizae; economic importance of fungi- beneficial and harmful; mushroom cultivation.

UNIT II: PLANT DISEASES (FUNGAL)

Classification of fungal diseases. Symptomatology of fungal diseases. Disease cycle and control measures of club rot of crucifers, rust of wheat, smut of sorghum, powdery mildew of grapes, red rot of sugarcane, leaf spot of groundnut. Control of fungal diseases- physical, chemical and biological methods. General account on Integrated Pest Management.

UNIT III: PLANT DISEASES (BACTERIAL AND VIRAL)

General characteristics and modern classification of bacteria. Plant diseases caused by bacteria- symptomatology and disease cycle of leaf blight of rice, blight of cotton, common scab of potato and citrus canker. Plant viruses: classification, transmission and control of plant viruses; a brief account on plant diseases caused by viruses- yellow mosaic of legumes, mosaic disease of tobacco, bunchy top of banana.

UNIT IV: PLANT BREEDING

Methods of Breeding for Self Pollinated and Vegetatively Propagated Crops. Pureline selection, Mass selection, Clonal Selection, Marker- assisted Selection. Hybridization, Pedigree method. Synthetic varieties. Methods of Breeding for Cross Pollinated Crops. Hybrid vigour, Inbreeding Depression and Genetic basis of Heterosis.

PRACTICALS

1. Study of gram negative and gram positive bacteria
2. Morphological study of different fungal spores
3. Study of symptomatology of locally available diseased specimens
4. Plant Breeding Experiments

SUGGESTED READINGS:

1. Agrios, GN. 2005. Plant Pathology. 5th ed. Academic Press.
2. Ainsworth, G.C., E.K. Sparrow and A.S. Sussman. 1973. The Fungi- An Advanced Treatise. Academic Press.
3. Alexopolous, C.J., C.W. Mims & M. Blackwell 1996. Introductory Mycology. John Wiley & Sons.
4. Madigan, M.t. and John M.Martinko.2014. Brocks Biology of Microorganisms. 14th ed.Pearson Education.
5. David Allen Sleper & J.M. Poehlman. 2006. Breeding Field Crops. 5th Ed. John Wiley & Sons.
6. D.K. Maheswari. & R.C. Dube. 2013. Microbiology. S. Chand & Co. Ltd., New Delhi.
7. Gilbert, O.L. 2000. Lichens. Collins New Naturalist
8. Jens H. Peterson. 2013. The Kingdom of Fungi. Princeton University Press
9. Mehrotra, R.S. & K.R. Aneja. 1990. An Introduction to Mycology. Wiley Eastern Ltd.
10. Pandey, B.P. 2005. Plant Pathology. S.Chand & Company, New Delhi.
11. Pelczar, M.J., E.C.S. Chan &N.R. Krieg. 1986. Microbiology. Tata McGraw Hill, New Delhi.
12. Robert W.Allard. 1999. Plant Breeding. 2nd ed. John Wiley & Sons.
13. Singh, R.S. 2009. Introduction to Principles of Pathology. 4th ed.
14. Vashishta, B.R. 2002. Fungi. 11th ed. S.Chand & Co. New Delhi.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
PAPER 202 : MOLECULAR GENETICS AND TECHNIQUES IN BIOLOGY

UNIT I: INHERITANCE, RECOMBINATION AND MAPPING

Mendelian laws of inheritance- an overview. Genetic conventions, notations and terminology. 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, selection of biochemical buffer, oxygen electrode and biosensors. 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

1. Alberts A et al. 1994. Molecular Biology of cell. Garland publ. New York.
2. Cantor, C.R. and P.R. Schimmel. Biophysical Chemistry by , W.H. Freeman & Co.
3. Copper Geoffrey, M. 2000. The Cell - a Molecular approach. 2nd Edn. ASM Press, Washington.
4. De Robertis EDP & EMF De Robertis . 2001. Cell and Molecular biology. Lippincott Williams & Wilkins.
5. Freifelder D. 1990. Molecular biology. Narosa publication house, New Delhi.
6. Gardner E J & D P Snustad 1996. Principles of Genetics. John Wiley, New York.
7. Glasel A. and M.P. Deutscher. 1995. Introduction to Biophysical Methods for Protein and Nucleic Acid Research. Academic Press.
8. John M. Wrigglesworth. 1983. Biochemical research technique (A Practical Introduction)
9. Strickberger MW 1996. Genetics III edn. McMillan, New York.
10. Cooper, T.G. The tools of Biochemistry. Wiley Eastern.
11. Vanholdem, K.E. and W.C. Johnson. 1988. Principles of Physical Biochemistry. Wilson & Walker. 1986. Practical Biochemistry: Principles & Techniques. Cambridge University Press.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

PAPER 203 : 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

SUGGESTED READINGS

1. Buchnan, Gruissen & Jones. 2001. Biochemistry and Molecular Biology of Plants.
2. Dennis, D.T., D.B. Layzell, D.D. Lefebrye & D. Turpin. 1997. Plant Metabolism. 2nd ed. Addison Wesely Pub. Co. New York.
3. Dey and Horborne. 1998. Plant Biochemistry. Academic Press.
4. Heldt, H.W. 1997. Plant Biochemistry and Molecular Biology. OUP.

5. Horton, HR, MoranLA, Ochs RS et al., 2001. Principles of Biochemistry, III edn. Prentice Hall.
6. Lehninger, A.L. 2001. Biochemistry. Kalyani Publishers. Ludhiana.
7. Mathews CK, Van Holde KE and Ahem KG. 2000. Biochemistry III edn. Sanfransico. Benjamin Cummings.
8. Thomas C. Moore. 1992. Biochemistry and Physiology of Plant Hormones. II Eds. Narosa Publishers.
9. Wilkins, M.B. (ed) 1987. Advanced Plant Physiology. ELBS & Longman. Essex., England.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
PAPER 204: 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. Human civilization and Plants – Agriculture and Forestry. Plants and landscape ecology. Plants role in soil protection and water conservation. Role of plants in climate change scenario-carbon credits. Plants in combating pollution- as bioremediants. Poisonous plants. Aliens 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; Fruits and Nuts; Vegetables; Starch and Sugar Yielding Plants; Oil yielding plants.Plants yielding essential oils, saponins, fibres, cellulose products: gums, resins, rubber, tannins and dye yielding plants. Plants as sources of timber, biofuels and fire wood. Forage plants and Ornamental Plants.

UNIT III: PLANTS AND MEDICINE

Introduction, History, Scope and importance of Indigenous systems of medicine (Ethnomedicine, Traditional medicine, Ayurveda, Siddha, Unani), Homeopathy and Allopathy. Different types of crude drugs- based on origin,application and purpose/use. Wild and Potential Drug Yielding plants and their therapeutic values with reference to forests of AP. Phytomedicine and Applications; Importance of phytopharmaceuticals, Pharmacognosy-Principles, Identification of different constituents. Classification of Drugs . Analytical methods- drug adulteration and evaluation. Phytopharmacology and Molecular Farming

UNIT IV: PLANTS AS MODEL ORGANISMS

Introduction to model organisms.Types of model organisms. Genomic model organisms, Genetically modified organisms. Use of Model organism. Important model organisms- prokaryotes and Eukaryotes. E.coli., Chlamydomonas reinhardtii, Arabidopsis thaliana, Zea mays, Nicotiana benthamiana . Transgenic plants. Plants as bioreactors. Plantibodies.

SUGGESTED READINGS:

1. Alan beebay & anne- Maria Brennan. 2008. First Ecology. 3rd ed. Oxford University press.
2. Cotton CM. 1996. Ethnobotany: Principles and Applications
3. Cunningham, W.P. & M.A. Cunningham. 2007. Principles of Environmental Science- Inquiry and Applications. Tata Mc Graw Hill Publications. New Delhi.
4. Hill, Albertt, F. 1952. A Text Book of useful plants and plant products. Tata Mc Graw Hill Publications. New Delhi.
5. Kokate , C.K. AP. Purohit & SB .Gokhale. 2000. Pharmacognosy. Nirali Prakasan Publications.
6. Rao, RaviPrasad B. 2005. Biodiversity. In Pullaiah.T. (ed) Taxonomy of Angiosperms. Regency Publications. New Delhi. Pp: 287-317.
7. Sambamurthy, A.V.V. S. & N.S. Subbramanyam 2000. Economic Botany of Crop Plants. Asiatech Publishers Inc.
8. Trease, GE. And WC. Evans. 2002. Pharmocognosy. Saunders. New York.

M.Sc. Chemistry

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

CHOICE BASED CREDIT SYSTEM

SECOND YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

III Semester

(Effective from the academic year 2016-2017)

CHEM-OC: 301: PAPER I – ORGANIC SPECTROSCOPY

UNIT - I: UV - VISIBLE SPECTROSCOPY, ORD & CD

UNIT -II: IR & RAMAN SPECTROSCOPY

UNIT -III: ^1H NMR SPECTROSCOPY

UNIT- IV: MASS SPECTROMETRY

UNIT - I: UV - VISIBLE SPECTROSCOPY, ORD & CD

15 Hrs

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

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: ^1H NMR SPECTROSCOPY

15 Hrs

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 over Hauser effect (NOE).

^{13}C NMR Spectroscopy: General considerations, chemical shift (aliphatic, olefinic, alkyne, aromatic, heteroaromatic and carbonyl carbon), coupling constants.

UNIT IV: MASS SPECTROMETRY

15 Hrs

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, Mc Lafferty 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.

References

1. Organic Spectroscopy, W. Kemp 5th Ed, ELBS.2.
2. Spectroscopy of organic compounds, RM Silversteen and other, 5th Ed, John Wiley 1991.
3. Spectroscopy of organic compounds, P.S. Kalsi, Wiley, 1993.
4. NMR in chemistry-A multi nuclear introduction, William Kemp, Mc. Millan, 1986.
5. Spectroscopy methods in organic chemistry, DH Williams & I Flemmi, TMH. 2005.
6. Nuclear Magnetic Resonance Spectroscopy An Introduction to Principles, Applications and experimental methods Joseph B. Lambert and Eugene P.Mzzola (pearson Education inc. Prentice – Hall).
7. Understanding Mass Spectra: A Basic Approach, R. Martin Smith, Second Edition, A (John Wiley & Sons, Inc.).

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM
SECOND YEAR M.Sc. CHEMISTRY
M.Sc. ORGANIC CHEMISTRY (OC)
III Semester
(Effective from the academic year 2016-2017)

CHEM-OC: 302: Paper II – 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

UNIT -I: ORGANO PHOSPHOROUS AND ORGANO SULPHUR COMPOUNDS

15 Hrs

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, Arbuzov 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

(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 olefin metathesis, . Stork-enamine reaction and Umpolung use of dithio acetals.

UNIT -III: NEW TECHNIQUES AND CONCEPTS IN ORGANIC SYNTHESIS

15 Hrs

Solid phase polypeptide synthesis, Solid phase oligonucleotide synthesis, Strategies in oligosaccharide synthesis, Kahne glycosidation, 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

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.

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
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).

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

CHOICE BASED CREDIT SYSTEM

SECOND YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

III Semester

(Effective from the academic year 2016-2017)

**CHEM-OC: 303: PAPER III – CONFORMATIONAL ANALYSIS, ASYMMETRIC
SYNTHESIS AND ORGANIC PHOTOCHEMISTRY**

UNIT -I: CONFORMATIONAL ANALYSIS (CYCLIC SYSTEMS)

UNIT -II: PRINCIPLES OF ASYMMETRIC SYNTHESIS

UNIT –III: METHODOLOGY OF ASYMMETRIC SYNTHESIS

UNIT -IV: ORGANIC PHOTOCHEMISTRY

UNIT -I: CONFORMATIONAL ANALYSIS (CYCLIC SYSTEMS) 15 Hrs

Study of conformations of cyclohexane, mono, di and polysubstituted cyclohexanes, cyclohexene, cyclohexanone (2-alkyl and 3 -alkyl ketone effect), 2-halocyclohexanones, cyclopentane, cyclobutane, cycloheptane, cyclooctane, cyclononane, cyclodecane. Stereochemistry of decalins, bicyclo[3,3,0]octane and hydrindanes, perhydroanthracene. Conformational structures of piperidine, N-Methylpiperidine, tropane, tropine, pseudotropine, decahydroquinoline and quinolizidine. Conformational effects on the stability and reactivity of diastereomers in cyclic molecules - steric and stereo electronic factors – examples. Factors governing the reactivity of axial and equatorial substituents in cyclohexanes. Stereochemistry of addition to the carbonyl group of a rigid cyclohexanone ring.

UNIT -II: PRINCIPLES OF ASYMMETRIC SYNTHESIS 15 Hrs

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). Stereoselective reactions (product stereoselectivity): Enantioselectivity and diastereoselectivity. Conditions for stereoselectivity: Symmetry and transition state criteria, kinetic and thermodynamic control. Methods for inducing enantio and diastereoselectivity. Analytical methods: % Enantiomer excess, % enantioselectivity, optical purity, % diastereomeric excess and % diastereoselectivity. Techniques for determination of enantioselectivity: Specific rotation, Chiral ^1H NMR, Chiral lanthanide shift reagents and Chiral HPLC.

UNIT -III: METHODOLOGY OF ASYMMETRIC SYNTHESIS 15 Hrs

Classification of asymmetric reactions into 1. substrate controlled, 2. chiral auxiliary controlled, 3. chiral reagent controlled and 4. chiral catalyst controlled. 1. Substrate controlled asymmetric synthesis: Nucleophilic additions to chiral carbonyl compounds. 1, 2- asymmetric induction, Cram's rule and Felkin-Anh model. 2. Chiral auxiliary controlled asymmetric synthesis: α -Alkylation of chiral enolates, azaenolates, imines and hydrazones. Chiral sulfoxides. 1, 4- Asymmetric induction and Prelog's rule. Use of chiral auxiliaries in Diels-Alder and Cope

reactions. 3. Chiral reagent controlled asymmetric synthesis: Asymmetric reductions using BINAL-H. Asymmetric hydroboration using IPC2 BH and IPCBH2. Reductions with CBS reagent. 4. Chiral catalyst controlled asymmetric synthesis: Sharpless, Jacobsen and Shi asymmetric epoxidations. Sharpless asymmetric dihydroxylation

and amino hydroxylation. Asymmetric hydrogenations using chiral Wilkinson biphosphine and Noyori catalysts. Chiral catalyst controlled Diels- Alder reactions, Enzyme mediated enantioselective synthesis: 5. Asymmetric aldol reaction, Diastereoselective aldol reaction and its explanation by Zimmerman-Traxel model. Auxiliary controlled aldol reaction. Double diastereoselection matched and mismatched aldol reactions.

UNIT IV: ORGANIC PHOTOCHEMISTRY

15 HRS

Photochemistry of π, π^* transitions: Excited states of alkenes, cis-trans isomerisation, photostationary state, electrocycloaddition and sigmatropic rearrangements, di- π methane rearrangement. Intermolecular reactions, photocycloadditions, photodimerisation of simple and Conjugated olefins. Photoisomerisation of benzene Photochemistry of n, π^* transitions: Excited states of carbonyl compounds, homolytic cleavage of α - bond Norrish type I reaction in acyclic and cyclic ketones and strained cycloalkanediones. Intermolecular abstraction of hydrogen: photoreduction and photooxidation- influence of temperature, solvent and nature of hydrogen donor and structure of the substrate Intramolecular abstraction of hydrogen: Norrish type II reaction, Addition to carbon-carbon multiple bonds, Paterno-Buchi reaction, Photochemistry of nitrites-Barton reaction.

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 Moscher
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. Molecular Photochemistry by Gilbert & Baggo
15. Organic Photochemistry by D Coyle

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM
SECOND YEAR M.Sc. CHEMISTRY
M.Sc. ORGANIC CHEMISTRY (OC)
III Semester
(Effective from the academic year 2016-2017)

CHEM-OC: 304: Paper IV – BIO-ORGANIC CHEMISTRY

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

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

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

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

15 Hrs

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.

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.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

CHOICE BASED CREDIT SYSTEM

SECOND YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

IV Semester

(Effective from the academic year 2016-2017)

**CHEM-OC: 401: Paper I – ADVANCED ORGANIC SPECTROSCOPY AND
NANOMATERIALS**

UNIT -I: ^{13}C NMR SPECTROSCOPY

UNIT -II: MULTIPULSE TECHNIQUES IN NMR SPECTROSCOPY

UNIT -III: 2D NMR TECHNIQUES

UNIT -IV: NANOMATERIALS

UNIT -I: ^{13}C NMR SPECTROSCOPY

15 Hrs

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 Overhauser 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

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: NANOMATERIALS

15 Hrs

Introduction and definition of nanoparticles and nanomaterials, classification of nanomaterials, chemical routes for synthesis of nanomaterials, chemical precipitation and co-precipitation, metal nanocrystals by reduction, Sol-gel synthesis, Microemulsions or Reverse micelles, Hydrothermal synthesis, characterization of nanomaterials, X-ray diffraction(XRD), Scanning Electron Microscopy(SEM), Transmission Electron Microscopy(TEM), Atomic Force Microscopy(AFM), Properties of nanomaterials-magnetic, electrical, optical and mechanical, applications of nanomaterials-Bio-medicinal, chemical and environmental.

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).
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 Soectroscopy by Attar-ur-Rahman
17. NanoChemistry : A Chemical Approach to Nanomaterials; G. A. Ozin, A. C. Arsenault and L. Cademartiri (Royal Society of Chemistry)
18. Nanocomposite Science and Technology; P. M. Ajayan, L.Z. Schadler and P. V. Brown (Wiley)
19. Nanoparticles: From Theory to Applications; G. Schmidt (Wiley)
20. Nanotechnology: Nanostructures and Nanomaterials M. Balakrishna Rao, K. Krishna Reddy campus books international First Edition (2009)
21. Charles .Poole Jr. Trank J. Owens, Introduction to Nanotechnology (2nd Edition) Wiley-India edition Delhi-2008
22. Characterization of Nanophase Materials; Z. L. Wang (ed.) (Wiley-VCH)

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"

CHOICE BASED CREDIT SYSTEM

SECOND YEAR M.Sc. CHEMISTRY

M.Sc. ORGANIC CHEMISTRY (OC)

IV Semester

(Effective from the academic year 2016-2017)

CHEM-OC: 402: Paper II – DRUG & MEDICINAL CHEMISTRY

UNIT -I: PRINCIPLES OF DRUG DESIGN AND DRUG DISCOVERY

UNIT -II: STRUCTURE ACTIVITY RELATIONSHIP (SAR) STUDIES

UNIT -III: QUANTITATIVE STRUCTURE- ACTIVITY RELATIONSHIP (QSAR) STUDIES

UNIT -IV: MEDICINAL CHEMISTRY

UNIT -I: PRINCIPLES OF DRUG DESIGN AND DRUG DISCOVERY 15 Hrs

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: STRUCTURE ACTIVITY RELATIONSHIP (SAR) STUDIES 15 Hrs

1. Binding role of hydroxy group, Amino group, aromatic ring, double bond, ketones and amides. 2. Variation of substituents- alkyl substituents, aromatic substituents, extension of structure, chain extension/contraction, ring expansion/contraction, ring variation, ring fusion. 3. Simplification of the structure, rigidification, conformational blockers, X-ray crystallographic studies. Ex: A case study of Oxamiquine (schistosomiasis), Sulpha drugs (antibacterial), Benzodiazepines (Hypnotics) and Taxol analogues (anticancer drugs).

UNIT -III: QUANTITATIVE STRUCTURE- ACTIVITY RELATIONSHIP (QSAR) STUDIES 15 Hrs

QSAR parameters – Physicochemical parameters- Lipophilicity - Electronic parameters, Steric parameters, effect of electronic and steric parameters on lipophilicity. Methods used in QSAR studies- Linear free energy relationship (LFER) – Partial Least Squares Method – Multivariate Statistics – Correlation – Regression – Principal Component Analysis - Cluster significant analysis - Application of Hammett equation, Hansch analysis, significance of slopes and intercepts in Hansch analysis.

UNIT -IV: MEDICINAL CHEMISTRY

15 Hrs

Introduction, sources of natural leads and their structural modification to semisynthetic/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 semisynthetic 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,.

References

1. Drug design By E.J. Arienes
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
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.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM
SECOND YEAR M.Sc. CHEMISTRY
M.Sc. ORGANIC CHEMISTRY (OC)
IV Semester
(Effective from the academic year 2016-2017)
CHEM-OC: 403: Paper III –ORGANIC SYNTHESIS CHEMISTRY AND GREEN
CHEMISTRY

UNIT -I: HETEROCYCLIC CHEMISTRY – II

UNIT- II: REACTION MECHANISM – II

UNIT -III: NEW SYNTHETIC REACTIONS

UNIT -IV: GREEN CHEMISTRY

UNIT - I : HETEROCYCLIC CHEMISTRY – II

15 Hrs

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 benzothiepine.

UNIT- II: REACTION MECHANISM – II:

15 Hrs

a) Addition to carbon-carbon multiple bonds- Addition involving symmetrical and unsymmetrical reagents, Addition of halogens to alkenes, evidence for haonium ion intermediacy, stereoselectivity and specificity, Syn addition reagents like KMnO_4 , OsO_4 , Anti addition – Epoxidation followed by ring opening.

b) Elimination reactions: E_2 , E_1 , E_1CB mechanisms. Orientation and stereo-selectivity in E_2 elimination reactions. Pyrolytic syn elimination and α elimination. Elimination vs. substitution.

UNIT -III: NEW SYNTHETIC REACTIONS

15 Hrs

Baylis–Hillman reaction, RCM olefin metathesis, Grubb catalyst, Mukayama aldol reaction, Mitsunobu reaction, McMurrey reaction, Julia–Lythgoe olefination, and Peterson's stereoselective olefination, Heck reaction, Suzuki coupling, Stille coupling and Sonogishira coupling, Buchwald–Hartwig coupling. Ugi reaction, Click reaction.

UNIT -IV: GREEN CHEMISTRY

15 Hrs

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. a) 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. 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. b) Microwave assisted reactions in water — Hoffmann

elimination, hydrolysis, oxidation, saponification reactions. c) Microwave assisted reactions in organic solvents — Esterification reactions, Fries rearrangement, Orthoester Claisen rearrangement, Diels- Alder reaction, decarboxylation. Ultrasound assisted reactions: introduction, substitution reactions, addition, oxidation, reduction reactions.

Recommended Books

1. Mechanism and theory in Organic Chemistry, T.M.Lowry, K.C.Richardson, Harper and Row.
2. Physical Organic chemistry, N.S.Isaacs
3. The Physical basis of Organic Chemistry by H.Maskill.
4. Physical Organic Chemistry by Jack Hine.
5. New trends in green Chemistry by V.K.Ahluwalia

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM
SECOND YEAR M.Sc. CHEMISTRY
M.Sc. ORGANIC CHEMISTRY (OC)
IV Semester
(Effective from the academic year 2016-2017)

CHEM: OC: 404: PAPER-IV– TERPENOIDS, STERIODS, ALKALOIDS
AND FLAVONOIDS

UNIT- I: TERPENOIDS

UNIT - II: ALKALOIDS

UNIT -III: STERIODS

UNIT-IV: FLAVONOIDS

UNIT: I: TERPENOIDS

15 Hrs

Occurrence, Isolation general methods of structural determination isoprene rule special iso prene rule, structure determination and stereochemistry and synthesis of the following molecules:
1.Santonin 2. Farnesol 3. Zingiberene 4. Cadinene

UNIT II: ALKALOIDS

15 Hrs

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 : STERIODS

15 Hrs

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 Hrs

Occurrence nomenclature and geneal 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.

References:

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.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2015-16)
SECOND YEAR M.Sc. CHEMISTRY
(w.e.f. 2016 - 2017)

RECOMMENDED PRACTICALS AND REFERENCE BOOKS

LABORATORY COURSE – II

90 hrs (3 h / w)

Semester – III: Practical Paper – III

Organic Qualitative Mixture Analysis: Separation of two component mixtures by chemical methods and their identification by chemical reactions – Separation by using solvent ether, 5% aqueous sodium bicarbonate, 5% sodium hydroxide and dil hydrochloric acid, checking the purity of the two components by TLC, identification of the compounds by a systematic study of the physical characteristics (MP/BP), extra elements (Nitrogen, halogens and sulfur), Solubility, functional groups, preparation of crystalline derivatives and identification by referring to literature. A minimum of Ten mixtures should be separated and analyzed by these procedures.

The following Experiments for Demonstration purpose only

- (a) Thin Layer Chromatography: Determination of purity of a given sample, monitoring the progress of chemical reactions, identification of unknown organic compounds by comparing the R_f values of known standards.
- (b) Separation by Column chromatography: Separation of a mixture of ortho and Para nitro anilines using silicagel as adsorbant and chloroform as the eluent. The column chromatography should be monitored by TLC.
- (c) Paper Chromatography

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2015-16)
SECOND YEAR M.Sc. CHEMISTRY
(w.e.f. 2016 - 2017)

Semester – III: Practical Paper – IV

100 Marks

Organic Quantative Estimations

1. Estimation of Phenol
2. Estimation of Glucose
3. Estimation of Aniline
4. Estimation of Ketone
5. Determination of Saponification value
6. Determination of Acid/Iodine value
7. Determination of Paracetamol

The following experiments for demnonstration purpose only

Isolation and identification of Natural products

1. Isolation of Caffeine from tea leaves
2. Isolation of Asperdine from lemon peel
3. Isolation of euginol from cloves
4. Isolation of piperines from black pepper
5. Isolation of casein and lactose from milk

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2015-16)
SECOND YEAR M.Sc. CHEMISTRY
(w.e.f. 2016 - 2017)

Semester – IV: Practical Paper – V

(a) Spectral identification of organic compounds

Spectral identification of unknown organic compounds by interpretation of IR, UV, ^1H NMR, ^{13}C NMR and mass spectral data. A Minimum of 30 representative examples should be studied.

(b) Multi step synthesis of Organic compounds

The exercises should illustrate the use of organic reagents and may involve purification of the products by chromatographic techniques.

1. Beckmann rearrangement: Benzanilide from Benzophenone
Benzophenone $\rightarrow$ Benzophenone oxime $\rightarrow$ Benzanilide
2. Benzilic acid rearrangement: Benzilic acid from benzoin
Benzoin $\rightarrow$ Benzil $\rightarrow$ Benzilic acid
3. P-Bromo Aniline from Aniline
Aniline $\rightarrow$ Acetanilide $\rightarrow$ P-Bromo Acetanilide $\rightarrow$ P-Bromo Aniline
4. Synthesis of Paracetamol
5. Synthesis of Phenytoin

Recommended Text Books and Reference Books

Organic Chemistry

1. Organic Chemistry By R T Morrison and R.N.Boyd
2. Organic Chemistry by T.J.Solomons
3. Organic Chemistry by L.G.Wade Sr
4. Organic Chemistry by D.Cram, G.S.Hammond and Herdricks
5. Modern Organic Chemistry by J.D.Roberts and M.C.Caserio
6. Text book of Organic Chemistry by Ferguson
7. Problems and their solutions in organic Chemistry by I.L.Finar
8. Reaction mechanisms in Organic Chemistry by S.M.Mukherji and S.P.Singh

M.A English

KVR GOVT COLLEGE FOR WOMEN,KURNOOL (AUTONOMOUS)

MA in English - Restructured Course (Effective from the 2015-2017 Batch)

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. ELT (100 marks)

and

PROJECT (200 marks)

[18 papers and one project 2000 marks]

KVR GOVT COLLEGE FOR WOMEN, KURNOOL

(AUTONOMOUS)

MA English - Restructured Course

(Effective from the 2015-2017 Batch)

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 | |

UNIT-II

- ### 3. Chinua Achebe

UNIT-III

- 4 Wole Soyinka Kongi's Harvest

UNIT IV

5. 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 |

UNIT-II

- | | |
|------------------|------|
| 4. Toni Morrison | Sula |
|------------------|------|

UNIT- III

- | | |
|--------------------|--|
| 5. Emily Dickinson | 76,214,241,712 (from Selected Poems
of Emily Dickinson) |
|--------------------|--|

UNIT-IV

- | | |
|------------------|---------------------|
| 6. Arthur Miller | Death of a Salesman |
|------------------|---------------------|

PAPER 3.3: INDIAN LITERATURE IN ENGLISH TRANSLATION

Background Study: Literary History-Genres-Movements-Ideas-Trends-Concepts

UNIT-I

- | | |
|------------------------|-----------------------|
| 1. Subramania Bharathi | Phoenix |
| | Deception? Truth? |
| | Sound the Tocsin |
| 2. Sri Sri | To Poesy : A Rhapsody |
| (Trans. by the author) | The March of History |
| | Forward March |

UNIT-II

- | | |
|-------------------------------|------------------------|
| 3 Thakazhi Sivasankara Pillai | Chemmeen |
| 4. Volga | 'Vimukta Kadh Samputi' |

UNIT-III

- | | |
|-------------------|------------------------------------|
| 5. S.L. Bhyrappa | Vamsavruksha |
| 6 Vijay Tendulkar | Silence!!! The court is in session |

UNIT-IV

- | | |
|--------------------|--------------------------------------|
| 9. Mahasweta Devi | <u>Hazaar Chaurasi Ki Maa</u> (1998) |
| 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 |
|--------------|---------|

UNIT-II

- | | |
|-------------------|------------------------|
| 2. Samuel Johnson | Preface to Shakespeare |
|-------------------|------------------------|

UNIT- III

- ### 3. T.S. Eliot Tradition and the Individual Talent

UNIT-IV:

- 4 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 GOVT COLLEGE FOR WOMEN , KURNOOL

(AUTONOMOUS)

MA in English - Restructured Course

(Effective from the 2015-2017 Batch)

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 | Autumn |
| 2. Derek Walcott | A Far Cry from Africa |

UNIT-II

- | | |
|----------------------|------------------|
| 3. Margaret Atwood | The Edible Woman |
| 4. Margaret Laurence | The Stone Angel |

UNIT-III

- | | |
|------------------------|---|
| 5. Katherine Mansfield | Bliss and Other Stories (Penguin Modern Classics) |
|------------------------|---|

UNIT-IV

- | | |
|-----------------|---------------|
| 6. 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. Lionel Trilling | Freud and Literature |
|--------------------|----------------------|

UNIT-II

- | | |
|------------------|--------------------------|
| 2. Northrop Frye | Archetypes of Literature |
|------------------|--------------------------|

UNIT - III

- | | |
|------------|--------------------------|
| 3. Derrida | Sign, Structure and Play |
|------------|--------------------------|

UNIT-IV

- | | |
|------------|---------------------------|
| 4. Bharata | Rasa (Natya Sastra) |
| 5. Kuntaka | Vakrokti (Vakroktijivita) |

PAPER 4.3: ENGLISH LANGUAGE TEACHING (ELT)

UNIT-I

1 The Grammar-Translation Method

2. The Direct Method

UNIT-II

3 The Oral Approach and Situational Language Teaching

4 The Audio -lingual Method

UNIT-III

5 The Bilingual Method

6 Communicative Language Teaching

UNIT-IV

7.The Lexical Approach

8 Task based Approaches

References:

1.Techniques and Principles in Language Teaching :Diane Larsen-Freeman

2. H.H. Stern

Fundamental Concepts of Language Teaching

3. Jack C. Richards and Theodore S. Rodgers

*Approaches and Methods
in Language Teaching*

4 Geetha Nagaraj

English Language Teaching

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 author(s)/topic(s) other than those prescribed for the MA programme.

M.Com Commerce

KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS),
KURNOOL.

Accredited with "A" Grade by NAAC

SYLLABUS FOR FINAL YEAR M.COM PROFESSIONAL FOR THE
ACADEMIC YEAR 2016-17

SEMESTER - III

STRATEGIC MANAGEMENT

Internal Marks:25

No. of Hours per Week: 5

Exam Duration: 3Hrs External Marks:75

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 , ADivision of sage Publications Pvt.Ltd.

KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS),
KURNOOL.

Accredited with “A” Grade by NAAC

SYLLABUS FOR FINAL YEAR M.COM PROFESSIONAL FOR THE
ACADEMIC YEAR 2016-17

SEMESTER - III
CORPORATE TAX PLANNING AND MANAGEMENT

Internals Marks: 25 No of Hours per week: 5 Exam Duration: 3Hrs

External Marks: 75

UNIT-I: An Overview of Direct and Indirect taxes applicable to corporate sector –Significance of corporate taxation – Concepts and definitions of Corporate Income tax - Assessee –Previous year – Assessment year- Residence of company – Types of companies for tax purpose – Incomes forming part of total income of a company – Exempted incomes and Tax free incomes with special reference to corporate sector.

UNIT-II: Computation of Income from Business –Set off and carry forward of losses –Deductions from Gross Total Income applicable to companies.

UNIT-III: Computation of Total Income of company –Tax liability of company and Minimum Alternate Tax.

UNIT-IV: Tax planning –Definitions –Tax planning – Tax Avoidance and Tax evasion –

Tax Planning with reference to Financial Management Decisions – Capital structure

decision –Dividend –Bonus Shares.

UNIT-V: Filing of Returns – Appeals and Revisions – Penalties and prosecution

Reference Books:

1.Bhagawathi Prasad ; Law and Practice of Income Tax, Wiley Eastern, New Delhi.

2. Gaur and Narang : Income Tax, Law and Practice Kalyani Publishers, New Delhi.

3. Dinkar Pagare : Income Tax, Sultan Chand & Sons, New Delhi.

4. Vinod. K. Singhania : Direct Taxes, Planning and Management Taxman Publishers,

New Delhi

KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS),
KURNOOL.

Accredited with “A” Grade by NAAC

SYLLABUS FOR FINAL YEAR M.COM PROFESSIONAL FOR THE
ACADEMIC YEAR 2016-17

SEMESTER - IV

INTERNATIONAL BUSINESS

Internal Marks: 25
3Hrs

No. of Hours per Week: 5

Exam Duration:

External Marks: 75

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 CORPORTAION:

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 interveentions 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. International Business. Text & Cases Himalaya Publishing House, Mumbai.
 2. Justin Paul, International Business. Prentice- Hall of India Pvt, New Delhi.
 3. Francis Cherunilam. International Business Text & Cases. Third Edition, Prentice Hall of India Pvt, New Delhi.
 4. Ricky W Griffin & Michael 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 Hill, New York.
- Aswathappa. K., International Business Text and Cases Himalaya Publishing House, Mumbai

KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS),
KURNOOL.

Accredited with "A" Grade by NAAC

SYLLABUS FOR FINAL YEAR M.COM PROFESSIONAL FOR THE
ACADEMIC YEAR 2016-17

SEMESTER – IV

E-COMMERCE

Internal Marks: 25 No. of Hours per Week: 5

Exam Duration: 3Hrs

External Marks: 75

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 Mumbai
- 2 Efrain Turban, Jay lee. David king and H.Michel Chung. Electronic Commerce A Managerial perspective. Pearson Education Asia
3. Kamalesh K Baja and Debjani Nag E-Commerce. Tata Mc Graw-Hill Publish Company Limited. New Delhi.

