English

KVR GOVERNMENT LLEGE FOR WOMEN (A) KURNOOL

General English B.A./B.Com./B.Sc. for all courses

Semester I

Paper-I

Syllabus 2015-2016

Unit – I Prose

1. Secret of Work Swami Vivekananda
2. The Power of Prayer A.P.J.Abdul Kalam
3. Man in Black Oliver Goldsmith

Unit – II Poetry

1. Daffodils William Wordsworth
2. Stopping by Woods on a Snowy Evening Robert Frost
3. Ecology A.K.Ramanujan

Unit – III Short story

1. What is My Name? P.Satyavathi
2. An Astrologers'S Day R.K.Narayan
3. Luncheon Somerset Maugham

Unit – IV One Act Play

The Merchant of Venice William Shakespeare

Unit – V Language Activity (Exercises from Text)

1. Reported Speech
2. Unseen Comprehension Passage
3. Phonemic sounds and Symbols
4. Phonetic Transcription to Spelling

5 Syllable Devision

6. Word Stress

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

Modified Syllabus

General English B.A, B.Com, B.Sc for All Courses

Part I, Paper II

Syllabus Effective from 2015-16

UG Syllabus

Year-I **Subject – English** **Year 2015-16**

Semester – II

Unit – I: Prose **Total Marks –15**

1. The Portrait of a lady -- Kushwanth Singh
2. Playing the English Gentleman -- M.K.Gandhi
3. On Shaking Hands -- A.G. Gardiner

Unit – II: Poetry **Total Marks –15**

1. Bird Sanctuary -- Sarojini Naidu
2. Sonnet to Science -- Edger Allen Poe
3. La Belle Dane sans merci -- John Keats

Unit – III : Short Story **Total Marks –15**

1. The Boy Who Broke the Bank -- Ruskin Bond
2. Thakur's Well -- Prem Chand
3. Money -- Ranganayakamma

Unit – IV: One Act Ply **Total Marks –10**

1. The Death Trap -- Saki (H.H. Munro)

Unit – V: Language Activity **Total Marks –20**

1. Simple , Complex & Compound Marks – 05
2. Question Tags Marks – 05
3. Common Errors Marks – 05
4. Story Writing based on Hints Marks – 05

For Semester I & II Prescribe Text book "Paths to Skills in English "Published by Orient Black Swam Pvt Ltd

Telugu

కె.వి.ఆర్. ప్రభుత్వ మహిళ డిగ్రీ కళాశాల - కర్నూలు

స్వయం ప్రతిపత్తి 2015-2016

బి.ఎ (ఆర్.డి) మొదటి సంవత్సరము -ప్రత్యేక తెలుగు

పాఠ్యప్రణాళిక

మొదటి సెమిష్టరు

1. శకుంతలోపాఖ్యానము నన్నయ	-	ఆంధ్రమహాభారతం - ఆదిపర్వము చతుర్థాశ్వాసము - (65వ పద్యము నుండి 109వ పద్యము వరకు)
2. వసుచరిత్ర	-	రామరాజ భూషణుడు-వసుచరిత్ర-తృతీయాశ్వాసము (26వ పద్యము నుండి 50వ పద్యము వరకు)
3. కన్యాశుల్కం	-	నాటకం - గురజాడ వేంకట అప్పారావు

రెండవ సెమిస్టరు

1. వేమన	-	పారిస్ ప్రతి
2. కోయిల	-	రాయప్రోలు సుబ్బారావు
3. గోసంగి	-	ఎండ్లూరి సుధాకర్
4. గబ్బిలం	-	గుఱ్ఱం జాషువ (మొదటి భాగం 1వ పద్యము నుండి 20 పద్యాల వరకు)
5. సీతాసందేశం	-	మొల్ల రామాయణం - సుందరకాండం 91వ పద్యము నుండి 124వ పద్యము వరకు

Hindi

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

Department of Hindi

Part - I - B (Second Language) I B.A. / B.Sc/B.Com

Semester - I Syllabus

UNIT - I

1. गद्यभाग : 1. साहित्य की महत्ता
   2. मित्रता
   3. पृथ्वीराज की आँखे

UNIT - II

2. कहानी संग्रह : 1. मुक्ति - धन
   2. उसने कहा था
   3. ठेस

UNIT - III

3. व्याकरण : लिंग, विलोमशब्द, अनुवाद

UNIT - IV

4. Functional Hindi - Administrative Terminology (50 words)

UNIT - V

5. Letter writing : Personal letters, letters of orders, Job applications.

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

Semister - II Syllabus - 2015 - 2016

UNIT - I

1. भारतीय संविधान में हिन्दी

UNIT - II

2. गद्य भाग : 1. भारत एक है
2. पूस की रात
3. एच.आई.वी.एड्स

UNIT - III

3. कहानी संग्रह : 1. जरिया
2. भूख हडताल
3. परमात्मा का कुत्ता

UNIT - IV

4. सूचना के अनुसार बदलिये : 1. वचन
2. वाच्य
3. पर्यायवाची शब्द
4. जोडिया

UNIT - V

5. संक्षिप्ती करण

Urdu

KVR Govt. College (w) Autonomous Kurnool.

Syllabus for (B.A./ B.Com. / B.Sc.) U.G. 2015-2016

Under Common Core Scheme inUrdu – CBCS

As per Andhra Pradesh State Council of Higher Education

Second Language – Urdu Paper – I

SEMESTER – I

POETRY

Prescribed book: MUNTAKHAB ADAB – I

UNIT – I

1. GHAZAL

MEER – Ulti ho gayeen sab tadbeeren

2. NAZM

IQBAL – Naya Shivalah

UNIT – II

1. GHAZAL

GHALIB – Ye na thi hamari khismat

2. NAZM

Akbar Ilahabadi – Nasihat-e-Aqlaaqi

UNIT – III

1. GHAZAL

HALI – Uske jate hi ye kya ho gayee ghar ki surat

2. NAZM

FAIZ – Mujhse pehli si muhabbat meri mehboob

UNIT – IV

1. GHAZAL

YASEER KURNULI– Rafeeq-o-hamnafas

2. NAZM

AKHTARUL IMAAN – Khabr

UNIT – V

1. GHAZAL

RAHI FIDAYI– Apni tareeq ke raqim ke liye

2. NAZM

IQBAL QUSRO – Izn-e-Aam

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KVR Govt. College (w) Autonomous Kurnool.

Syllabus for (B.A./ B.Com. / B.Sc.) U.G. 2015-2016

Under Common Core Scheme in Urdu – CBCS

As per Andhra Pradesh State Council of Higher Education

Second Language – Urdu Paper – II

SEMESTER - II

PROSE

UNIT – I **Mazmoon 'Behas-o-Takrar' - Sir Syed**

UNIT – II **Afsana 'Toba Tek Singh' - Manto**

UNIT – III **Drama 'Gud ki Makhiyan' - Kareem Rumani**

UNIT – IV **Muraqqa 'Ustad-e-Muhatarram Zore Sahib' – Sulaiman Athar Jaweed**

UNIT – V **Inshaiya 'Padiye gar beemar' –**

Mushtaq Ahmed Yusufi

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History

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

B.A. History

SEMESTER - I

PAPER : I Year History Syllabus for first Semister

Unit – I	Influence of geography on History — survey of source — pre Historic period —Paleolithic , Mesolithic and Neolithic Cultures -- Role of Technology Indus Valley Civilization and its features Vedic culture - Early and later vedic periods -- Post vedic period — Emegence of and caste system rise of new religions movements —Jainism and Buddlism in 6th century B.C. Impact on society and culture
Unit – II	A brief survey of political in ancient India — Magadha — Ashoka's Dhanna, its nature and propagation — Mauryan Administration — Economy — Art and Architecture.
Unit – III	Freedom Struggle from 1885 - 1920 A.D Moderate Phase — Partition of Bengal — Emergence of Militani Nationalism — Swadeshi & Boycott Movement — Home Rule Movement
Unit – IV	Post — Mauryan period — The Kushans — The Guptas — Polity and administration, social conditions Art, Architecture Education, Leterature, Philosophy science and Technology.
Unit – V	Post Gupta Period — Pushyabuties and Rajputs — Transition in Society — Position of women — south India — Sangam Age satavahas polity and administration, society, economy Art and Architecture.

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

B.A. History

SEMESTER - II

PAPER : I Year History Syllabus for first Semister

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

B.A. History

Paper – III

History of Modern World (1453 – 1945 A.D)

Unit – I : Characteristics features of Renaissance – Significance of Reformation and Counter Reformation movements in Europe – Geographical Discoveries and Rise of Colonialism. Mercantilism and Commercial Revolution – Emergence of Modern World Economy.

Unit – II: Emergence of Nation States in Europe – Nature of Feudalism in Europe and Aisa.

Unit – III: Age of Revolutions – Glorious Revolution (1688) – American Revolution (1776) – French Revolution (1789)

Unit – IV: Industrial Revolution and Rise of Capitalism – Impact on Asia and Africa – Meizi Restoration and Modernization of Japan – Unification Movements in Germany and Italy.

Unit – V: World between 1914 – 1945 Rivalry among colonial powers Imperialist Hegemony – Causes and consequences of First world War – World between the Wars – League of Nation, Fascism in Italy, Nazism in Germany, Militarism in Japan – Communist Movements in Russia and China.

Unit – VI: Causes and consequences of Second World War – UNO

B.A. History New Curriculum

Paper – IV (a)

History and Culture of Andhra Pradesh
(From Satavahanas to 1956 A.D)

Unit – I: Influence of Geographical features on History : Sources – A Brief Survey of political history from Satavahanas to Vijayanagara period – Socio-economic – Cultural conditions under Satavahana, Kakatiya and Vijayanagara rulers - growth and Spread of Jainism and Buddhism and their contribution to Art and Architecture.

Unit – II: The Qutb Sahis – a Brief Survey of Political History – Society, Economy and Culture. The Asaf Jahis – A Brief survey of their political history – Society, Economic and Culture – Salarjung's reforms.

Unit – III: Andhra Under Colonial Rule: Coming of European Merchant Companies – Conquest of Andhra by the British – Early Uprisings - Administration – Land Revenue Settlements – Agrarian Conditions – Famines – Impact of Industrial Revolution of Andhra Economy - Sir Thomas Munroe - Impact of 1857 Revolt in Andhra.

Unit – IV: Social Reform and Literary Movements: Veeresalingam, Raghupathi Venkataratnam Naidu, Gurajada Appa Rao, Komarraju Venkatalakshmana Rao, Non-Brahmin, Adi Andhra, Dalit, Self-Respect Movements – New Literary Movements – Gurram Jashua, Boyi Bhimanna, Viswanatha Satyanarayana, Rayaprolu Subba Rao, Sri Sri.

Unit – V: Freedom Movement in Andhra : Vandemataram, Home Rule, Non-Cooperation, Alluri Sitarama Raju – Rampa Rebellion 1922-24 – Civil Disobedience and Quit India Movements.
Political consequences in Telangana: Nizam Andhra Maha Sabha, Hyderabad State Congress, Razakars, Police Action and Accession of Telangana into Indian Union.

Unit – VI: Leftist Movements in Andhra and Telangana : Peasant armed Struggle – Tribal Uprisings - Komaram Bhimu – Bhoodan Movement.
Movement for Separate Andhra State: Andhra Mahila Sabha – Sree Bagh Pact – Martyrdom of Potti Sreeramulu – Formation of Andhra State, 1953 – Vishalandhra Movement - State's Re-organization Commission – Gentlemen's Agreement – Formation of Andhra Pradesh in 1956.

Economics

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

B.A Economics

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

Academic Year 2015-16

Semester-I

Paper-I(Core Paper)

Micro Economics-Consumer Behavior

Module-1

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

Module-2

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

Module-3:

Utility analysis:-Cardinal Approach-The Law of diminishing Marginal utility-The Law of Equi-Marginal Utility-Concept of Consumer's Surplus.

Module-4

Demand Analysis-Law of Demand-Elasticity of Demand-Measurement of Elasticity of Demand-Price, Income and Cross Elasticity's of Demand.

Module-5

Ordinal Approach: Indifference Curve Analysis-Properties of indifference curves-Price of budget line-Equilibrium of the Consumer with the help of indifference curves-Samuelson's revealed preference theory.

REFERENCES:

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

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

B.A Economics

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

Academic Year 2015-16

Semester-II

Paper-II (Core Paper)
Micro Economics-Production and Price Theory

Module 1

Production function-Concept of homogeneous production function-Cobb-Douglas Production function-Law of variable proportions-Law of returns to scale-Different concept of Costs-Explicit and Implicit, Opportunity, Total-Fixed and Variable Costs, Marginal and Average Costs & it's Relationship. Concept of Revenue-Total, Marginal & Average Revenue and Break-Even Point.

Module-2

Analyse different types of Market Structures-Perfect Competition-Price determination and equilibrium of firm and industry under perfect Competition-Monopoly-Price determination-Price discrimination.

Module 3

Monopolistic Competition- Price determination- Oligopoly- Kinked demand curve approach.

Module-4

Marginal Productivity Theories of wage determination subsistence theory of wages, standard of living theory of wages, modern theory of wages and collective bargaining-Concept of Minimum wage.

Module-5

Theory of Rent: Ricardian Theory of rent-Quasi rent concept of Alferd Marshall.Theories of Interest-Classical, Neo-classical and Keynes Liquidity Preference theory-Profit-dynamic innovations, Risk and Uncertainty theories.

REFERENCES:

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

Political Science

K.V.R. Government College For Women (Autonomous), Kurnool
RE-ACCREDITED WITH 'A' GRADE BY NAAC
For the Year 2017-18 As per APSCHE
Marks: 100 (Theory Exam: 60 Marks, Internal Assessment: 40 Marks)
I Year Students of B.A. Semester-I
Paper-I : Basic Concepts Of Political Science
(రాజనీతి శాస్తము –ప్రాథమిక భావనలు)

Unit-1	Explanatory Frameworks of Politics (రాజకీయాలు వివరణాత్మక భావనలు)
	1. What is Politics: Nature and Scope of Political Science (రాజనీతి అంటే ఏమిటి? : దాని స్వభావం, దాని పరిధి) 2. Approaches to the Study of Politics: Normative, Historical, Empirical Traditions (రాజకీయాల అధ్యయన దృక్పథములు: --శాత్విక చారిత్రక, ప్రయోగాత్మక సాంప్రదాయక)
Unit-2:	What is the State రాజ్యం అంటే ఏమిటి
	1. Origin and Evolution of the Modern State (ఆధునిక రాజ్యం పుట్టుక మరియు పరిణామం) 2. Different Conceptions on the role of the Modern State: Social Democratic and Neo Liberal conceptions (ఆధునిక రాజ్యం యొక్క పాత్ర--వివిధ భావనలు: సాంఘిక ప్రజాస్వామ్య భావన మరియు నయా ఉదారవాద భావనలు)
Unit-3:	Nations and Nationalism జాతులు మరియు జాతీయ వాదం
	1. Conceptual Distinction between Nationality and Nation (జాతీయత మరియు జాతి భావనల మధ్య వ్యత్యాసాలు) 2. Varieties of Nationalism: Culture and Civic Nationalism (జాతీయ వాదం రకాలు-- సాంస్కృతిక మరియు పౌర జాతీయ వాదం)
Unit-4:	Rights and Citizenship (హక్కులు మరియు పౌర సత్వం)
	1. Evolution of Rights: Civil and Social rights (హక్కుల పరిణామం పౌర మరియు సాంఘిక హక్కులు) 2. Citizenship: Universal and Differential Citizenship పౌర సత్వం—సార్వత్రిక- వ్యత్యాస పౌర సత్వం
Unit-5:	Freedom, Equality and Justice స్వేచ్ఛ, సమానత్వం, న్యాయం
	1. Freedom: Negative and Positive Freedom (స్వేచ్ఛ అనుకూల స్వేచ్ఛ ప్రతికూల స్వేచ్ఛ) 2. Equality: Formal Equality, Equality of Opportunity, Equality of Outcome (లాంచనప్రాయమైన సమానత్వం సమానత్వం అవకాశం లో సమానత్వం, ఫలిత సమానత్వం 3. Justice: Justice based on Needs, Deserts and Rights (న్యాయ భావన, సామాజిక న్యాయం , మెచ్చుకోదగిన లేదా శిక్షింపదగు చర్య మరియు హక్కులు)

Reference books:

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

K.V.R. GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
I Year Students of B.A. H.E.P
Semester-II Paper-II
Marks: 100 (Theory Exam: 60 Marks, Internal Assessment: 40 Marks)
Political Science (రాజనీతి శాస్త్రము **)**
Paper-II (Core): Political Institutions (Concepts, Theories And Institutions)
పవపర్- **2 :** రాజకీయ స్తంస్తథలు **(**భావాలు, స్ిదాధంత్ములు స్తంస్తథలు **)**

Unit-1: Constitutionalism (రాజాయంగబదధ్ాలన**)**

1.The Purpose of Constitutional law, Theory of Separation of Powers (రాజాయంగ బదధప్ాలన ఆవశయకత్, అధికార విభజన్స్ిదాదంత్ం (లేదా) అధికార పుంథకకరణ్స్ిదాదంత్ం
2. Structural Forms of the Modern State: Basic features of Parliamentary and Presidential forms of Government (ఆధ్ంనిక రాజాయల లో పాభుత్వ నిరామణ పదదత్ంలుప్ారలమ ంటరీ పాభుత్వం మరియుఅధ్యక్ష త్రహా పాభుత్వం యొకక మౌలిక లక్షణాలు)

Unit-2: Territorial Division of Authority of the Modern State (ఆధ్ంనికరాజాయలలో అధికార ప్ాదేశిక విభజన**)**

1. Basic features of Federal form of Government స్తమాఖ్య త్రహా పాభుత్వం యొకక మౌలిక లక్షణాలు
2. Basic features of Unitary form of Government ఏకక ందపాభుత్వం యొకక మౌలిక లక్షణాలు

Unit-3: Institutional forms of the Modern State ఆధ్ంనికరాజాయలలో స్తంసాథగత్ రూప్ాలు

1. Democracy: Basic features of Classical and Modern Representative Democracy పాజాసావామయము – సాంపాదాయ మరియుఆధ్ంనిక్ాతినిదయ పాజాసావమయ మౌలిక లక్షణాలు
2. Models of Democracy: Procedural Democracy and Substantive Democracy (పాజాసావమయ నిరిమత్ంలు- న్ామమాత్ా పాజాసావమయం-వాస్త్వ పాజాసావమయం

Unit-4: Judiciary and Democratic State (న్ాయయవయవస్తథ మరియుపాజాసావమయ రాజయము**)**

1.The nature, role and functions of the Judiciary న్ాయయ వయవస్తథ స్తవభావం దాని ప్ాత్ా మరియుఅధికారాలు , విదులు
2. Judicial Review: Debates on the Supremacy of legislature or Judiciary in the protection of Constitutional law న్ాయయ స్తమీక్ాదికారం : రాజాయంగ బదధ చ్ాల రక్షణలో శాస్తనశాఖ్ లేదా న్ాయయశాఖ్ ఆధికయత్ -- చ్రచ

Reference books:

1. Andrew Heywood (2007) Politics 3rd edition, Palgrave Macmillan, New York
2. Held, David (2006) Models of Democracy 3rd edition Oxford Polity Press
3. Birch A.H (2000) The Concepts and Theories of Democracy, London Routledge
4. Bogdanor, V (Ed) (1988) Constitutions in Democratic Politics Gower, Aldershot
5. Scott Gordon (1999) Controlling the State: Constitutionalism from Ancient Athens to Today, Cambridge, Harvard University Press.

ENVIRONMENTAL STUDIES
Common for BA/BCom/BSc/BBA/BCA Programmes

Semester – I (Total 30 Hours)

Unit-I : Natural Resources: 6 Hrs

Definition, scope and importance. Need for public awareness.
Brief description of;

1. Forest recourses: Use and over-exploitation. Deforestation; timber extraction, mining, dams. Effect of deforestation environment and tribal people
2. Water resources: Use and over–utilization. Effects of over utilisation of surface and ground water. Floods, drought.
3. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.
4. Food resources: World food problems, Effects of modern agriculture; fertilizer- pesticide, salinity problems.
5. Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.
6. Land resources: Land as resources, land degradation, man induced landslides, soil erosion and desertification

Unit-II : Ecosystems, Biodiversity and its conservation 6 Hrs

1. Concept of an ecosystem
2. Structure and function of an ecosystem
3. Producers, consumers and decomposers

4. Food chains, food webs and ecological pyramids
5. Characteristic features of the following ecosystems:-
6. Forest ecosystem, Desert ecosystem, Aquatic ecosystem.

7. Value of biodiversity: Consumptive use, productive use. Biodiversity in India.
8. Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts.
9. Endangered and endemic species of India
10. Conservation of biodiversity

Unit-III : Environmental Pollution 6 Hrs

1. Definition
2. Causes, effects and control measures of :-
    a. Air pollution
    b. Water pollution
    c. Soil pollution
    d. Noise pollution
3. Solid waste management; Measures for safe urban and industrial waste disposal
4. Role of individual in prevention of pollution

5. Disaster management: Drought, floods and cyclones

Unit-IV : Social Issues and the Environment **6 Hrs**

1. From Unsustainable to Sustainable development
2. Water conservation, rain water harvesting, watershed management.
3. Climate change, global warming, ozone layer depletion,
4. Environment protection Act
5. Wildlife Protection Act, Forest Conservation Act

Unit-V : Human Population and the Environment **6 Hrs**

1. Population explosion, impact on environment.
2. Family welfare Programme
3. Environment and human health
4. Women and Child Welfare
5. Value Education
6. Role of Information Technology in Environment and humanhealth.

Reference Books :

1. Environmental Studies by Dr.M.Satyanarayana, Dr.M.V.R.K.Narasimhacharyulu, Dr.G. Rambabu and Dr.V.VivekaVardhani, Published by Telugu Academy, Hyderabad.
2. Environmental Studies by R.C.Sharma, Gurbir Sangha, published by Kalyani Publishers.
3. Environmental Studies by Purnima Smarath, published by Kalyani Publishers.

I. HUMAN VALUES AND PROFESSIONAL ETHICS
Common for BA/BCom/BSc/BBA/BCA Programmes

I Semester (Total 30 Hrs)

Unit-I : Introduction to Value Education

1. Value Education, Definition, Concept and Need for Value Education
2. The Content and Process of Value Education
3. Self-Exploration as a means of Value Education
4. Happiness and Prosperity as parts of Value Education

Unit-II : Harmony in the Human Being

1. Human Being is more than just the Body
2. Harmony of the Self ('I') with the Body
3. Understanding Myself as Co-existence of the Self and the Body
4. Understanding Needs of the Self and the Needs of the Body

Unit-III : Harmony in the Family and Society and Harmony in the Nature

1. Family as a basic unit of Human Interaction and Values in Relationships
2. The Basics for respect and today's Crisis : Affection, Care, Guidance, Reverence, Glory, Gratitude and Love
3. Comprehensive Human Goal : The Five dimensions of Human Endeavour

Unit-IV : Social Ethics

1. The Basics for Ethical Human conduct
2. Defects in Ethical Human Conduct
3. Holistic Alternative and Universal order
4. Universal Human Order and Ethical Conduct

Unit-V : Professional Ethics

1. Value Based Life and Profession
2. Professional Ethics and Right Understanding
3. Competence in Professional Ethics
4. Issues in Professional Ethics – The Current scenario
5. Vision for Holistic Technologies, Production System and Management Models

Reference Books :

1. A.N.Tripaty, Human Values, New Age International Publishers, 2003
2. Bajpai.B.L., Indian Ethos and Modern Management, New Royal Book Co., Lucknow, Reprinted, 2004
3. Bertrand Russell, Human Society in Ethics and Politics
4. Corliss Lamont, Philosophy of Humanism
5. Gaur.R.R., Sangal.R, Bagaria.G.P., A Foundation Course in Value Education, Excel Books, 2009
6. Gaur.R.R., Sangal.R, Bagaria.G.P., Teacher's Manual, Excel Books, 2009
7. I.C.Sharma, Ethical Philosophy of India, Nagin & Co., Julundhar
8. Mortimer.J.Adler, What Man has Made of Man
9. R.Subramanian, Professional Ethics, Oxford University Press
10. Text Book for Intermediate Ethics and Human Values, Board of Intermediate Education & Telugu Academy, Hyderabad
11. William Lilly, Introduction to Ethics, Allied Publishers

INFORMATION & COMMUNICATION TECHNOLOGY –1 (ICT-1)

Computer Fundamentals and Office Tools

Common for all Degree Programmes

II Semester

(30 Hours of Teaching Learning including Lab)

Unit-I:

Basics of Computers : Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of a Digital Computer – Classification of Computers based on size and working – Central Processing Unit – I/O Devices.

Unit-II:

Primary, Auxiliary and Cache Memory – Memory Devices. Software, Hardware, Firmware and People ware – Definition and Types of Operating System – Functions of an Operating System – MS-DOS – MS Windows – Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar – Control Pane.

Unit-III:

MS-Word

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

Unit-IV:

MS-PowerPoint

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

Unit-V:

MS-Excel

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

Reference Books:

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

COMMUNICATION SKILLS AND SOFT SKILLS-1 (CSS -1)

COURSE CONTENT(30 hours)

Vocabulary is considered the key to communication and it plays a great role for learners in acquiring a language. The first unit, therefore, is on the different aspects of vocabulary.Since English is a predicate-oriented language, there are two units on grammar focusing on the verb phrase.Listening and speaking are the two receptive skills. Listening is the basic skill of communication, and reading helps a person refine their writing skills. Unit IV and Unit V are on listening and reading respectively.

Unit I: Vocabulary Building

1a. Prefixes and Suffixes
1b. Conversion
1c. Compounding
1d. Analogy
2. One-Word Substitutes
3. Words Often Confused
4. Synonyms and Antonyms
5. Phrasal Verbs

Unit II: Grammar - 1

1. Types of Verbs
2. Subject-Verb Agreement

Unit III: Grammar - 2

1. Meanings of Modals
2. Tense (Present and Past) and Aspect
3. The Several Possibilities for Denoting Future Time
4. Articles and Prepositions

Unit IV: Listening Skills

1. The Importance of Listening
2. Types of Listening
3. Barriers/Obstacles to Effective Listening
4. Strategies for Effective Listening

Unit V: Reading Skills

1. Skimming
2. Scanning
3. Intensive Reading and Extensive Reading
4. Comprehension

Advance Urdu

KVR Govt. College (w) Autonomous Kurnool.

Syllabus for B.A. Urdu CBCS 2015-16

As per Andhra Pradesh State Council of Higher Education

First year Optional Urdu Paper - 1

SEMESTER - I

URDU PROSE

Afsanavi Adab aur Drama

UNIT – I **Novel - Taaruf aur Irteqa**

UNIT – II **Novel 'Nirmala' by Premchand**

UNIT – III **Afsana - Taaruf aur Irteqa**

UNIT – IV **Urdu Afsane edited by Raziya Sajjad Zaheer.**

The following short stories only:

1. 'Woh' by Balraj Menra

2. 'Computer Isq' by Joginder Pal

3. 'Lal aur Peela' by K.A.Abbas

4. 'Mom ki Mariyam' by Jeelani Banu

5. 'Allah de Banda le' by Raziya Sajjad Zaheer

UNIT – V **Drama 'Darwaze Khol Do' by Krishan Chander**

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KVR Govt. College (w) Autonomous Kurnool.

Syllabus for B.A. Urdu CBCS 2015-16

As per Andhra Pradesh State Council of Higher Education

First year Optional Urdu Paper - II

SEMESTER - II

URDU PROSE

Ghair Afsanavi Adab

UNIT – I **SAFARNAMA - 'Bullet Train mein kabhi na baitho' byMujtaba Hussain**

UNIT – II **KHAKA - Taaruf aur Irteqa**

UNIT – III **Khaka - ' Dr.Abdul Haq marhoom' by Rasheed Ahmed Siddiqui.**

UNIT – IV **INSHAIYA - Taaruf aur Irteqa**

UNIT – V **Inshaiya – 'Jheengar ka Janaza' by**

Khwaja Hasan Nizami

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Commerce

KVR GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL.

Accredited with "A" Grade by NAAC

SYLLABUS FOR FIRST YEAR B.COM (CA) FOR 2016-2017

First Semester B Com General / B Com Computer Applications

SEMESTER – I

FINANCIAL ACCOUNTING-I

……...……

Objectives:

1.To make the students acquire the conceptual knowledge of accounting

2.To equip the students with the knowledge of accounting process and preparation of final accounts

3.To develop the skills of recording financial transactions and preparation of reports using computers

.

UNIT1: Introduction to Accounting:

Need for Accounting – Definition, features, objectives, functions, systems and bases and scope of accounting - Book keeping and Accounting - Branches of Accounting - Advantages and limitations-basic terminology used- – Accounting concepts and conventions. Accounting Process-Accounting cycle-Accounting equation-Classification of accounts-rules of double entry book keeping – Identification of financial transactions- Journalizing –Posting to Ledgers, Balancing of Ledger Accounts –-

UNIT 2: Subsidiary Books

Sub Division of Journal-Preparation of Subsidiary Books including different types of cashbooks-Simple cashbook, cashbook with cash and discount columns, cashbook with cash, discount and bank columns, cashbook with cash and bank columns and petty cash book. Preparation of sales register, purchase register, journal proper, debit note register, credit note register, and different cash books including interest and discount transactions using computers.

UNIT 3:Trial Balance

Trial Balance: Meaning, Objectives, Methods of preparation

UNIT:4. Final Accounts;.

- Final Accounts: Meaning, features, uses and preparation of Manufacturing, Trading Account, Profit & Loss Account and Balance Sheet-Adjusting and Closing entries. Preparation of trial balance, trading, profit and loss account, processing of year ending and closing the books, adjusting and closing entries and balance sheet using computers.

UNIT 5: Accounting Standards

Accounting standards formulated by the Institute of Chartered Accounts of India

Suggested Books

1.Accountancy - IS.P. Jain & K.L Narang , Kalyani Publishers
2. Accountancy – ITulasian, ata Mcgraw Hill Co
3.Financial Accounting – Dr.V.K.Goyal , Excel Books
4. Introduction to Accountancy T.S.Grewal S.Chand and CO

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SYLLABUS FOR FIRST YEAR B.COM (CA) FOR 2016-2017

First Semester BCom General / BComComputer Applications

SEMESTER – I

Business Organization

……..……

Unit-I – Introduction

Concepts of Business, Trade , Industry and Commerce – Features of Business -Trade Classification - Aids to Trade – Industry – Classification – Relationship of Trade, Industry and Commerce.

Unit II- Business Functions and Entrepreneurship

Functions of Business - Factors influencing the choice of suitable form of organization – Meaning of Entrepreneurship – Types – Functions of Entrepreneurship.

Unit –III – Forms of Organization

Sole Proprietorship – Meaning – Characteristics – Advantages and Disadvantages – Partnership - Meaning – Characteristics- Kinds of partners – Advantages and Disadvantages – Partnership Deed – Hindu-undivided Family

Unit-IV- Company

Company – Meaning – Characteristics –Advantages – Kinds of Companies - Differences between Private Ltd and Public Ltd Companies.

Unit-V- Company Incorporation

Preparation of important Documents for incorporation of Company – Memorandum of Association – Articles of Association – Differences Between Memorandum of Association and Articles of Association - Contents of Prospectus – Statement in Lieu of Prospectus

Reference Books

1. C.D.Balaji and G. Prasad, Business Organization - Margham Publications, Chennai.
2. R.K.Sharma and Shashi K Gupta, Business Organization - Kalyani Publications.
3. C.B.Guptha, Industrial Organization and Management, Sultan Chand.
4. Y.K.Bushan, Business organization and Management, Sultan Chand.
5. Sherlekar, Business Organization and Management, Himalaya Publications.

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SYLLABUS FOR FIRST YEAR B.COM (CA) FOR 2016-2017

First Semester BCom Computer Applications

SEMESTER – I

Computer Fundamentals & Photoshop

……..……

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

Unit-II: Input and Output Devices: Keyboard and mouse, inputting data in other ways, Types of Software: system software, Application software, commercial, open source, domain and free ware software, Memories: primary, secondary and cache memory.

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

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

Unit-V: Layers: Working with layers- layer styles- opacity-adjustment layers. **Filters:** The filter menu, Working with filters- Editing your photo shoot, presentation –how to create ads, artistic filter, blur filter, brush store filter, distort filters, noice filters, pixelate filters, light effects, difference clouds, sharpen filters, printing.

Reference Books:

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

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SYLLABUS FOR FIRST YEAR B.COM (CA) FOR 2016-2017

Second Semester BCom Computer Applications

SEMESTER – II

FINANCIAL ACCOUNTING-II

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Objectives:

1.To make the students acquire the conceptual knowledge of accounting

2.To equip the students with the knowledge of accounting process and preparation of final accounts

3.To develop the skills of recording financial transactions and preparation of reports using computers

UNIT - 1: Bank Reconciliation Statement

Bank Reconciliation Statement- Need - Reasons for difference between cash book and pass book balances – Problems on favorable and over draft balances - Ascertainment of correct cash book balance. Preparation of bank reconciliation statement using computers

UNIT – 1I: Errors and Rectification

Errors and their Rectification - Types of Errors - Rectification before and after preparations of final Accounts - Suspense Account- Effect of Errors on Profit. Rectification of errors using computers.

UNIT – 1II: Consignment

Consignment - Features, Terms used Pro-forma invoice - Account sale Delcredere commission - Accounting treatment in the books of the consignor and the consignee - Valuation of consignment stock - Normal and abnormal Loss - Invoice of goods at a price higher than the cost price.

UNIT – IV : : Depreciation - Provisions and Reserves:

Meaning of Depreciation - Causes- objects of providing for depreciation -Factors affecting depreciation - Accounting Treatment- Methods of providing depreciation - Straight line method - Diminishing Balance Method. ,Provisions and Reserves - Reserve Fund – Different Types of Provisions and Reserves.

UNIT - V: Computerized Accounting

Computerized Accounting: Meaning and Features-Advantages and disadvantages of computerized Accounting Creating of an Organization - Grouping of accounts – Creation of

Accounts – creation of inventory-Creation of stock groups-Stock categories, units of measurement-Stock items-Entering of financial transactions-Ttypes of vouchers-Voucher entry-Editing and deleting of vouchers-Voucher numbering-Customization of vouchers

Suggested Readings:

1.Principles and Practice of Accounting R.L. Gupta & V.K. Gupta Sulthan Chand &sons
2.Accountancy - IS.P. Jain & K.L Narang Kalyani Publishers
3.Accountancy – ITulasian Tata Mcgraw Hill Co
4.Financial Accounting – V.K.Goyal - Excel Books

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SYLLABUS FOR FIRST YEAR B.COM (CA) FOR 2016-2017

Second Semester BCom Computer Applications

SEMESTER – II

Principles of Management

……

Unit – I: Introduction to Management

Management – meaning – significance – management vs administration – functions of management – Leadership – Leader Vs manager – Fayol's principles of management.

Unit – II: Planning

Planning – meaning – significance – Steps in panning – Decision making – steps in decision making process.

Unit – III - Organization

Organizing – meaning – principles of organizations – line and staff organization – organization chart.

Unit – IV : Delegation of Authority

Delegation –meaning – Elements – Principles – Difficulties in delegation – Guidelines for making delegation effective – Centralization Vs Decentralization.

Unit – V –Staffing and controlling

Staffing – Selection procedure – coordination – control – meaning –Process of control – Qualities of Good Control

Reference Books

1. Dr.C.D.Balaji and G.Prasad, Business organization and Management – Margham publications, Chennai -17.
2. R.K.Sharma and Shashi, K.Gupata Business organization and management – Kalyani publications.
3. C.B.Guptha, industirial organization and management, Sulthanchand.
4. Y.K.Bushan , business organization and management, Sulthanchand.
5. Sherlekar, business organization and management, Himalaya Publications.
6. Management, Maruthi publishers.

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SYLLABUS FOR FIRST YEAR B.COM (CA) FOR 2016-2017

Second Semester BCom Computer Applications

SEMESTER – II

Programming in C

……..……

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

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

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

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

Unit-V: Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – - Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array to Function. **Structure, Union, and Enumerated Data Types:** Introduction – Nested Structures – Arrays of Structures – Structures and Functions - Unions – Enumerated Data Types.

Reference Books:

1. ReemaThareja, Introduction to C programming, Oxford University Press.
2. E Balagurusamy, Computing Fundamentals & C Programming – Tata McGraw-Hill, 2008.
3. Ashok N Kamthane, Programming with ANSI and Turbo C, Pearson Publisher, 2002.
4. Henry Mulish & Hubert L.CooReemaThareja: The Spirit of C: An Introduction to Modern Programming, Jaico Publishing House,1996.

Computer Applications

ANNEXURE - III

K.V.R. Govt. College for Women (A), Kurnool.
BA / B.Com. (Computer Applications) Three-Year Degree Course (Semester Wise)
Syllabus for First Year –1st Semester.
Paper I : FUNDAMENTALS OF COMPUERS
(Regulations 2015-2016)

No. of Hours Per Week : 03 Max. Marks: 75.

Unit- I:

Introduction to Computers : Definition – Computer system characteristics - logical organization of digital computers -types of computers (Analog Vs Digital Computers) – computer generations – computer hardware – software –System Software and Application Software-The shapes of computers today (Super Computers, Mainframe Computers, Mini Computers, Micro Computers)

Unit- II:

Peripheral Devices : Keyboard, mouse and other input devices, Monitors, Printers and other output devices. **Storage information:** Primary memory (Semi conductor memory) **- Secondary memory (**diskettes**,** Hard disks, tapes, CD & DVD, Pen drive).

Unit- III: Operating systems: Meaning, Definition, Functions of Opearting System, Types of Operating Systems – Booting process.
Introduction to DOS: DOS internal commands, DOS External Commands

Unit–IV - Networking Concepts - Types of Networks: LAN , MAN , WAN – Network Topologies for LAN (Ring, Bus, Star, Mesh) - Video conferencing.

Unit – V: Introduction to Windows: Desktop, File, Folder, My Computer, My documents, Recycle bin, Internet Explorer, Windows Explorer, Office Automation: Organization of an Office, Nature of Office work , The definition and need for office automation.

Unit – VI: MS word: Meaning and features of word processing – Parts of MS-Word window – Toolbars – Creating, Saving and Closing a document – Opening and editing a document – Moving and copying Text – Text and paragraph formatting, applying Bullets and Numbering – Find and Replace – Headers & Footers– Spelling and Grammar checking-Mail Merge - Working with tables – Macros – Creating, Deleting and Running a Macro **.**

Prescribed Books :

1. Suresh K. Basandra : Computers Today, Galgotia
2. Peter Norton's Introduction to Computers TMH (4th edn.) 2001
3. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill (2008) Reference Books :
4. Fundamentals of Computers – P. Mohan, Himalaya Publishing House.

ANNEXURE - IV

K.V.R. Govt. College for Women (A), Kurnool.
BA / B.Com. (Computer Applications) Three-Year Degree Course (Semester Wise)
Syllabus for First Year –2nd Semester.
Paper II : OFFICE AUTOMATION TOOL
(Regulations 2015-2016)

No. of Hours Per Week : 03 Max. Marks: 75.

Unit–I - MS Excel : Features of MS Excel – Parts of MS Excel Window – Saving, Opening and Closing workbook – Insertion and deletion of worksheet – Cell range – Formatting – Auto fill – Formulas

Unit–II - References : Relative, absolute and mixed – Functions : Mathematical , Statistical, Date and String functions – Charts and its types – Data Sorting, Filtering, Validation, Consolidation, Pivot table.

Unit–III - MS – Access : MS Access – Data, Information, Database, File, Record, Fields – Features of MS Access **–** Creating Tables - Creating Forms - Creating Queries and Generating Reports – Relationships.

Unit–IV- MS PowerPoint: Features of MS PowerPoint – Parts of MS PowerPoint window - Creating presentations through Auto Content Wizard, Templates and Blank – Inserting and deleting slides – Slide views – Custom Animation and Transition effects.

Unit–V – Internet :Overview of Internet, Internet service providers (ISP) – Modems-Browsers, search engine, searching web using search engines – Email – Advantages & Disadvantages – Creation of email id – User ID , Password – Computer Virus

Unit-VI-E- Commerce : Meaning, advantages and limitations of E-commerce – Trading stocks online, ordering products / journals / books etc., online, travel and tourism services, employment placement and job market, internet banking, auctions, online publishing, advertising – Online payment system.

Prescribed Books :

1. Suresh K. Basandra : Computers Today, Galgotia
2. Peter Norton's Introduction to Computers TMH (4th edn.) 2001
3. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill (2008)
4. E Commerce – David Whitely, Tata Mc Graw Hill.

Reference Books :

1. Fundamentals of Computers – P. Mohan, Himalaya Publishing House.
2. E Commerce – CSV Murthy, Himalaya Publishing House.
3. E Commerce, E Business – C.S. Rayudu, Himalaya Publishing House.

ANNEXURE - XV

KVR GOVT. COLLEGE FOR WOMEN (A), KURNOOL

For all I B.A./B.Sc./B.Com. programs with no computer course as core subject

(Revised syllabus W.E.F.2015- 2016)

PAPER –I: INTRODUCTION TO COMPUTERS.

SEMESTER – I SYLLABUS

Unit-1 : Exploring Computers

Exploring Computers and their uses: Overview: Computers in our world, The computer defined, Computers for individual users, Computers for organizations, Computers in society, Why are computers so important. Looking inside the computer system:

Unit-2 : Peripheral devices and hardware

Overview: Detecting the ultimate machine, The parts of a computer system, The information processing cycle, Essential computer hardware: processing devices, memory devices, Input and output devices, Storage devices, System software, Application software, Computer data, Computer users. Using the keyboard and mouse:

Overview: The keyboard and mouse, The keyboard, How the computer accepts input from the keyboard, The mouse, Variants of the mouse, Ergonomics and input devices.

Inputting data in other ways: Overview: Options for every need and preference, Devices for hand, optical input devices, Audio visual input devices.

Printing : Overview: putting digital content in your hands, Commonly used printers, High-quality printers, Thermal-wax printers, Dye-sublimation printers, Plotters.

Unit-3 : Storage Devices and Operating System Basics

Transforming data into information: Overview: The difference between data and information, How computers represent data, How computers process data, Machine cycles, Memory, Factors effecting processing speed, The computer's internal clock, The Bus, Cache memory. Types of storage devices: Overview: An ever-growing need, Categorizing storage devices, Magnetic storage devices—How data is stored on a disk, How data is organized on a magnetic disk, How the operating system finds data on a disk, Diskettes, hard disks, Removable high-capacity magnetic disks, Tape drivers, Optical storage devices, Solid-state storage devices, Smart cards, Solid-state disks.

Unit-4 : Operating system basics

Overview: The purpose of operating systems, Types of operating systems, Providing a user interface, Running programs, Managing hardware, Enhancing an OS utility software. Networking Basics: Overview: Sharing data anywhere, anytime, The uses of a network, Common types of networks, Hybrid networks, How networks are structured, Network topologies and protocols, Network media, Network hardware.

Prescribed Books :

1. Peter Norton, Introduction to Computers, sixth Edition, Tata McGraw Hill (2007)
(Chapters 1, 2, 3, 4, 5, 6,7,10,11,12)
2. Ran Mansfield, working in Microsoft Office, Tata McGraw Hill 2008).
(Chapters : 4 to 9, 11, 12, 24, 25, 28)

Reference Books :

1. Michael Miller, Absolute Beginner's guide to computer Basics, Fourth Edition, Pearson Education (2007).
2. Deborah Morley, Charles S.Parker, understanding computers today and tomorrow, 11th edition, Thomson(2007).
3. Ed Bott, woody Leonhard, using Microsoft Office 2007, Pearson Education (2007).

ANNEXURE - XVI

KVR GOVT. COLLEGE FOR WOMEN (A), KURNOOL

For all I B.A./B.Sc./B.Com. programs with no computer course as core subject

(Revised syllabus W.E.F.2015- 2016)

PAPER –I: INTRODUCTION TO COMPUTERS.

SEMESTER – II SYLLABUS

Unit-1 : MS-Word

Word Basics : Starting word, Creating a new document, Opening preexisting document, The parts of a word window, Typing text, Selecting text, Deleting text, Undo, Redo, Repeat, Inserting text, Replacing text, Formatting text, Cut , Copy, Paste – Formatting Text and Documents : Auto format, Line spacing, Margins, Borders and Shading. Headers and Footers : Definition of headers and footers, creating basic headers and footers, creating different headers and footers for odd and even pages.

Unit-2 : Tables

Creating a simple table, Creating a table using the table menu, Entering and editing text in a table, selecting in table, adding rows, changing row heights, Deleting rows, Inserting columns, Deleting columns, changing column width. Graphics : Importing graphics, Clipart, Insert picture, Clip Art Gallery, using word's drawing features, drawing objects, text in drawing.

Unit-3: Templates

Template types, using templates, exploring templates, modifying templates.

Macros : Macro, Record in macros, editing macros, running a macro.

Mail Merge : Mail Merge concept, Main document, data sources, merging data source and main document, Overview of word menu options word basic tool bar.

Unit-4: Ms-Power Point

Power Point : Basics, Terminology, Getting started, Views

Creating Presentations : Using auto content wizard, Using blank presentation option, Using design template option, Adding slides, Deleting a slide, Importing Images from the outside world, Drawing in power point, Transition and build effects, Deleting a slide, Numbering a slide, Saving presentation, Closing presentation, Printing presentation elements.

Prescribed Books :

1. Peter Norton, Introduction to Computers, sixth Edition, Tata McGraw Hill (2007) (Chapters 1,2,3,4,5,6,7,10,11,12)
2. Ran Mansfield, working in Microsoft Office, Tata McGraw Hill (2008). (Chapters : 4 to 9, 11, 12, 24, 25, 28)

Reference Books :

1. Michael Miller, Absolute Beginner's guide to computer Basics, Fourth Edition, Pearson Education (2007).

2. Deborah Morley, Charles S.Parker, understanding computers today and tomorrow, 11th edition, Thomson (2007).
3. Ed Bott, woody Leonhard, using Microsoft Office 2007, Pearson Education (2007).

ANNEXURE – VI

LIST OF PRACTICALS

KVR GOVT. COLLEGE (AUTONOMOUS): : KURNOOL
I B.A. CA/CE & I B.Com.C.A. NEW SYLLABUS
(Revised syllabus W.E.F.2015- 2016)

FUNDAMENTALS OF COMPUTERS & OFFICE AUTOMATION TOOLS

PRACTICAL PAPER**: Office Automation Tools**

MS-WORD

1. Design a visiting card for Managing Director of a Company with following specification
   i. Size of visiting card is 3.5" x 2".
   ii. Name of a company with big font using Water Mark.
   iii. Phone number, fax number and e-mail address with appropriate symbols.
   iv. Office and residence address separated by line.
2. Create a letter head of a company
   i. Name of Company on the top of the page with big font and good style.
   ii. Phone numbers, fax numbers, e-mail address with appropriate symbols.
   iii. Main products manufactured to be described at the bottom.
   iv. Slogans if any should be specified in bold at the bottom.
3. Creation of your Bio-Data: consisting Name, email-id, Contact Address, Carrier Objective, Educational qualifications, social activities, achievements.

MS-POWERPOINT

1. Make a Power point presentation on your strengths, weaknesses, hobbies, factors that waste your time.
2. Make a Power point presentation on any Current affair (Not less than 8 slides)
3. Make a Power point presentation to represent your College profile.
4. Make a Power point presentation of all the details of the books that you had studied in B.A/B.Com. First Year.

MS-ACCESS

1. 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.

2. 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.

3. 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.

MS-EXCEL

1. Create an electronic spreadsheet in which you enter the following decimal numbers and convert into Octal, Hexadecimal and Binary numbers Vice versa.

   Decimal Numbers: 35, 68, 95,165,225, 355,375,465

   Binary Numbers: 101,1101,111011,10001,110011001,111011111.

2. The ABC Company shows the sales of different products for 5 years. Create column chart, 3D-column and Bar chart for the following data.

YEAR PRODUCT-1 PRODUCT-2 PRODUCT-3 PRODUCT-4

YEAR	PRODUCT-1	PRODUCT-2	PRODUCT-3	PRODUCT-4
2010	1000	800	900	1000
2011	800	80	500	900
2012	1200	190	400	800
2013	400	200	300	1000
2014	1800	400	400	1200

3. Create a suitable examination data base and find the sum of the marks (total) of each student and respective class secured by the student rules:

   Pass if marks in each subject >=35.

   Distinction if average>=75.

First class if average>=60 but <75.
Second class if average>=50 but <60.
Third class if average>=35 but <50.
Fail if marks in any subject is <35.
Display average marks of the class, subject wise and pass percentage.

Excel:

1. Create 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.

2. 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.

3. 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/-

4. Create a chart using cricket source and cricketers name and the number of runs using column chart and pie chart.

Communicative English

KVR GOVERNMENT COLLEGE FOR WOMEN, KURNOOL

(AUTONOMOUS)

I YEAR DEGREE B.A COMMUNICATIVE ENGLISH

SYLLABUS (w.e.f. 2015-2016)

SEMESTER- I

PAPER-1

JECTIVES: To Introduce the students to the elements of grammar and usage for effective communication

NIT-I: VOCABULARY AND USAGE

(1) Synonyms and Antonyms (2) Phrasal Verbs

(3) One-word Substitutes

NIT-II: GRAMMAR

(1) Verb: Tense and Aspect

(2) Agreement between subject and verb (concord)

(3) Question tags

UNIT-III: READING COMPREHENSION

(1) Identifying the main theme /central idea/topic of a given passage.

(2) Locating specific theme and identifying general ideas in a given passage.

(3) Testing the Knowledge of Vocabulary and Grammar of the Candidate.

UNIT-IV: STORY WRITING

UNIT-V: NOTE- MAKING

RECOMMENDED READING:

(1)Thomson and Martinet: A Practical English Grammar

(2)Bhaskaran and David Horsburgh: Strengthen Your English, OUP 1973

(3)Sarah Freeman: Written Communication in English, Oriented Longman, 1977

KVR GOVERNMENT COLLEGE FOR WOMEN, KURNOOL(AUTONOMOUS)

I YEAR DEGREE B.A. COMMUNICATIVE ENGLISH

SYLLABUS (w.e.f. 2015-2016)

SEMESTER- II : PAPER-II

OBJECTIVES: To Introduce the students to the elements of grammar and usage for effective communication

UNIT-I: VOCABULARY AND USAGE

(1) Words often confused (2) Idioms (3) Spelling

UNIT-II: GRAMMAR

(1) Direct and Indirect speech

(2) Simple, compound and complex sentences

(3)Transformation of sentences

(a)Voice (b) Degrees of comparison (c) Kinds of sentences

UNIT-III: READING COMPREHENSION

(1) Identifying the main theme /central idea/topic of a given passage.

(2) Locating specific theme and identifying general ideas in a given passage.

(3) Testing the Knowledge of Vocabulary and Grammar of the Candidate.

UNIT-IV:

PRECIS-WRITING

UNIT-V: WRITING

(1) Dialogue writing
(2) Essay writing

RECOMMENDED READING:

(1)Thomson and Martinet: A Practical English Grammar

(2)Bhaskaran and David Horsburgh: Strengthen Your English, OUP 1973

(3)Sarah Freeman: Written Communication in English, Oriented Longman, 1977

Advance Telugu

కె.వి.ఆర్. ప్రభుత్వ మహిళ డిగ్రీ కళాశాల - కర్నూలు

స్వయం ప్రతిపత్తి 2015-2016

బి.ఎ (ఆర్.డి) మొదటి సంవత్సరము -ప్రత్యేక తెలుగు

పాఠ్యప్రణాళిక

మొదటి సెమిష్టరు

1. శకుంతలోపాఖ్యానము వన్నయ	-	ఆంధ్రమహాభారతం - ఆదిపర్వము చతుర్థాశ్వాసము - (65వ పద్యము నుండి 109వ పద్యము వరకు)
2. మనుచరిత్ర	-	రామరాజ భూషణుడు-మనుచరిత్ర-తృతీయాశ్వాసము (26వ పద్యము నుండి 50వ పద్యము వరకు)
3. కన్యాశుల్కం	-	నాటకం - గురజాడ వేంకట అప్పారావు

రెండవ సెమిస్టరు

1. వేదన	-	పారిస్ ప్రతి
2. కోయిల	-	రాయప్రోలు సుబ్బారావు
3. గోవంగి	-	ఎండ్లూరి సుధాకర్
4. గణ్యాలం	-	గుఱ్ఱం జాషువ (మొదటి భాగం 1వ పద్యము నుండి 20 పద్యాల వరకు)
5. సీతాసందేశం	-	మొల్ల రామాయణం - సుందరకాండం 91వ పద్యము నుండి 124వ పద్యము వరకు

Rural Development

B.A.RURAL DEVELOPMENT

Academic Year 2015-16

Paper-I: Elements of Rural Development

Unit-I

Definition of Rural Areas-Meaning of Development-Concept of Rural Development-Causes of Rural Backwardness-Nature and Scope of Rural Development in India.

Unit-2

Approaches of Rural Development in India: Gandhi an Approach-Decentralized Planning Approach-Sectoral Approach-Area Approach-Target Group Approach-Integrated/Holistic Approach-Participatory Approach-Rights Approach.

Unit-3

Rural Health-Health Care Services in Rural Areas-Maternal and Child Health-HIV/AIDS-National Health Policy of India-National Rural Health Mission.

Unit-4

Education in Rural Areas-Problems in School Education: School Dropouts and Girl Child Education-Sarva Siksha Abhiyan- National Literacy Mission-National Education Policy.

Unit-5

Rural Housing: Status, Problems and Programmes-Drinking Water Supply: Sources, Problems and Programmes-rural Sanitation: Problems and Programmes.

Books and References

1.N.I.R.D :Facets of Rural Development in India
2.S.C. Jain :Rural Development
3.Misra & Sarma : Problems and prospects of Rural Development in India
4.K.Venkata Reddy :Rural Development in India: Poverty and Development, Himalaya Publishing House,Mumbai,2012
5.Rajasekhar D (Ed) :Prof G Parthasarathi's Writings on Indian Rural Economy in Transition
6.Katar Singh :Rural Development: Principles,Policies & Management
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
Jounals:Kurukshetra,Yojana,Khadi Gramodyog,Journal of R.D

B.A.RURAL DEVELOPMENT

Academic Year 2015-16

Paper-II: Rural Development Policies and Programmes

Unit-1

Pioneering Efforts in Rural Reconstruction: Sriniketan - Martandam-Sevagram-Baroda-Firka Development Scheme-Nilokheri- Etawa Pilot Project.

Community Development Programme and National Extension Service- Panchayati Raj Institution-73rd Constitutional Amendment Act-Transfer of Functions and Powers to PRIs

Unit-2

Area Development Programmes:Drought Prone Area Programme – Command Area Development Programme- Desert Development Programme-Hill Area Development Programme-Integrated Tribal Development Agency – Tribal Development Corporation.

Unit-3

Target Group Programmes – Swarnajayanti Gram Swarojgar Yojana – National Rural Livelihood Mission – Micro Finance and Self –help Group for Women Empowerment:Functioning of Velugu/Indira Kranthi Patham in A.P.

Unit-4

Employment Generation Programs-MGNREGS:Strategy,Implementation mechanism and Problems- Prime Minister's Grameen Rajogar Yojana.

Unit-5

Natinal Social Assitance Programme – Rastriya Swasthya Bima Yojana – Aam Admi Bima Yojana – National Food Security Mission.

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.Susan Johnson and Ben Rogally :Micro Finance

Publications of A.P.Telugu Academy

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

Psycology

K.V.R Govt. College (W), Kurnool
(Autonomus)
Degree I B.A. Psychology Gurriculum 2015-16
Semester – I 60 hrs
Paper - I General Psychology

Time : 3 **Hours Marks : 75**

Unit-I: lntroduction
Definition and scope of psychology, Fields of psychology - Schools of psychology, Methods of psychology - introspection, observation case study, lnterview, survey and Experimental method.

Unit - II : Biological Basis of Behavior
A . Nervous system and its organization - The structure of ne$ron central nervous system - Brain and spinal cord. Autonomic nervous system
B. Hormonal basis of behavior - The major endocrine glands and their funclitns
C. Mechanisms of heredity - lnfluence of heredity and environment on behavior

Unit-III: Attention
Definition, Different aspects of attention - Span, division, distration and fluctuation VolQary and invflutary attention determinents of attention.

Unit - lV : Sensation and Perception
Difference between sensation and percepetion, Principles of perceptualorganizaiton. Percetual constrancy, Movement perception. lnternal and external factors influencing perceptual experience, illusions

Unit - V : Motiovation and emotion
Definition types of motives - Physiological and psychosocial motives, Maslow's theory of motivation emotion - Definition and nature of emotions. Theories of emotion James - Lange, Cannon - Bard and schacter - Singer.

Approved by :

1	V.V.Sesha Reddy	Chairperson BOS	
2	Dr. K.Lalitha	University Nominee	K. Lalitha
3	Dr.G.Koteswaraiah	Subject Expert	26/6/15
4	Dr.S.Shamsuddin	Subject Expert	
5	Smt. K. Krishnaveni	Corporate	26/6/15
6	Miss N. Parvathi	Alumnus	

K.V.R Govt. College (W), Kurnool
(Autonomus)
Degree I B.A. Psychology Curriculum 2015-16
Semester - II 60 hrs
Paper - I General Psychology

Time: 3 **Hours Marks : 75**

Unit-I: Learing
A. Definition - Marturation and Learning Classicaland instrumental conditioning learning by insight and observation
B. Role of motivation, Reward and punishment in Learnng. Learning curves,
Efficient methods of Learning, Transfer of Learning.

Unit - ll : Memory and forgetting
Meaning of memory Types of memory Methods of Measuring Memory Information processing model of memory causes of forgetting methods of improving memory.

Unit-lll: Thinking
Nature of Thinking : concepts, Deductive and inductive reasoning, Problem solving - lmpediments to problem solving - creative Thinking stages - Characteristics of creative people.

Unit - lV : States of consciousness
Sleep and dreams, Hypnosis, Meditation, Drug - induced states of consciousness

Unit-V:lntelligence
A. Definition - Theories of intelligence - Spearman Two factor theory Thurspne Multifactor Theory Sternberg's Triarchic theory of inteftigence
B. Measurment of lntelligence - Concept of l.Q. types of intelligence tests variations in intellecturalability intellectuallygifted and relatded factors influencing individual differences in intelligence - Heredity and Environemnt. Experiments to be completed in lst Year.
Attention : 1. Span of attention forvisual stimnli
2. Effect of auditory and visual distraction on attention
3. Division of attention with similar and dissimilar tasks
Perception : 4. Measuring illusion using muller - Lyer illusion figure
5. Determination of two point threshould

Approved by :

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

Botany

I B. Sc., BOTANY
Course Content; A Y: 2015-16
SEMESTER-I PAPER-I

PAPER – I: Micro diversity, Algae & Fungi

UNIT- I: MICROBIOLOGY (18hr)

1. **VIRUSES:** Structure, reproduction transmission and general account of symptoms with special reference to Leaf curl of Papaya and Tobacco mosaic. (6hr)

2. **BACTERIA**: Structure, nutrition, reproduction, economic importance. Bacterial diseases of crop plants – citrus canker and leaf blight of paddy.(6hr)

3. **CYANOBACTERIA**: Cell structure ,thallus organization and Structure and life history of Oscillatoria and Nosto. (4hr)

4. Biofertilizers and SCPs. (2hr)

UNIT- II: ALGAE (18hr)

5. General account, thallus organization, structure, reproduction and classification of Algae (Fritsch). (4hr)

6. Structure ,reproduction and life history of Oedogonium,Chara.(6hr)

7. Structure ,reproduction and life history of Ectocarpus and Polysiphonia. (6hr

8. Economic importance of Algae. (2hr)

UNIT- III: FUNGI (24hr)

9. General characters, classification and economic importance.(2hr)

10. Structure, reproduction and life history of Albugo, Pencillium and Puccinia. (10hr)

11. Integrated Disease Management -with special reference to Tikka disease of Ground nut, Late blight of Potato, Smut of Sorghum and Paddy blast. (8hr)

12. Lichens : Types , structure,reproduction,ecological significance and economic importance.(4hr)

I B. Sc., BOTANY
Course Content; A Y : 2015-16
SEMESTER-II PAPER-II

PAPER – II: Diversity of Archegomaiates &Plant Anatomy

UNIT- I : BRYOLOGY (15 hr)

1. General characters, classification and alternation of generations.(3hr)

2. Structure,reproduction and life history of Marchantia (developmental stages not necessary).(5hrs)

3. Structure,reproduction and life history of Anthoceros (developmental stages not necessary).(5hrs)

4. Evolution of Sporophytes in Bryophytes. (2hr)

UNIT- II : PTERIDOLOGY (18 hr)

5. General characters and classification. (3hr)

6. Structure, reproduction and life history of Lycopodium. (6hr)

7. Structure, reproduction and life history of Marsilea.(6hr)

8. Stelar evolution. (3hr)

UNIT- III : GYMNOSPERMS (18hr)

9. General characters, Classification and Economic importance.(4hr)

10. Structure,reproduction and life history of Pinus. .(5hr)

11. Structure,reproduction and life history of Gnetum.(5hr)

12.Paleobotany-concept,Fossils and Fossilization-Process,factors, Types of fossils and their importance.(4hr**)**

SEMESTER-I

PAPER – I: Micro diversity, Algae & Fungi

Practical List

1 .Knowledge of equipment used in Micro biology – Spirit Lamp, Hot air oven etc.

2, Preparation of liquid and solid medium

3. Study of Viruses and Bacteria

4. Gramstaining technicque

5. Study of plant deseasus

6. a. Cyanobacteria – Nostoc. Scytonema

b. Algae – Oudogonium, Ectocarpus, Polysiphonia

c. Fimgi- Rhizopus, Pencillium and Puccinia

7 Deseasus caused by Fungi

8. Lichens – Morphology & Anatomy

SEMESTER-II

PAPER – II: Diversity of Archegomaiates &Plant Anatomy

Practical List

1 .Bryophyta – Marchantia, Polytrichum

2. Pteridophyta- Lycopodium, Marsillea

3. Gymnosperms – Pinus, Gnetum

4. Tissues in Root Shoot Apices

5. Anamalous secondary structure in Achyranthus, Boerhaavia and Dracaena

6. Anatomical study of wood T.S, T.L.S and R.L.S

Zoology

ANNEXURE - I
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
(w. e. f. 2015-2016)

DEPARTMENT OF ZOOLOGY

FIRST YEAR - FIRST SEMESTER SYLLABUS

PAPER-I: ANIMAL DIVERSITY OF INVERTEBRATES

UNIT I

1.0 Protozoa to Coelenterata

1.1 Phylum Protozoa: General characters and outline classification up to classes. 5 hours
Type study: Paramecium: Structure , Reproduction (conjugation)and nutrition in Phylum protozoa only.
1 .2 Phylun Porifera : General characters and outline classification up to classes.
Type study: Sycon, Canal system in Sponges. 5 hours

UNIT II

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

UNIT III

3.0 **Nematihelminthes to Annelida**

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

UNIT IV

4.0. **Arthropoda to Hemichordata**

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

UNIT V

5.0 Mollusca

5.1Phylum Mollusca: General characters and outline classification upto classes
Type study: Pila digestive, respiratory systems, torsion in Molluscs; Pearl formation in Molluscs. 8hours

UNIT VI

6.**0 Echinodermata to Hemichordata**

6.1 Phylum Echinodermata: General characters and outline classification upto classes

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

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

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
(w. e. f. 2015-2016)

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DEPARTMENT OF ZOOLOGY

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

UNIT-I **10 hours**

1.0 Protochordates: Salient features of Urochordata and cephalochordata

1.1Structure and life history of Herdamania,Significance of Retrogressive metamorphosis.

1.2 General characters of chordates.

UNIT- II **12 hours**

2.0 General characters of Cyclostomes.

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

2.2 Type study-**SCOLIODON**: Morphology, Respiratory system, circulatory system(Heart) Excretory system, sense organs, nervous system(Brain).

*Migration of fishes and types of scales.

UNIT- III

08 hours

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

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

*Parental care in Amphibians.

UNIT IV

08 hours

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

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

* Differences between poisonous and non poisonous snakes.

UNIT-V **12 hours**

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

5.1Type study- **PEGION** (COLUMBIA LIVIA): Exoskeleton (Quill feather)
Respiratory system.

*Significance of Migration in Birds. Flight adaptations in birds.

UNIT- VI

10hours

6.0 General characters and classification of Mammals up to class level with examples.

6.1 Type study: **RABBIT:** Digestive system ,circulatory system(Heart), Nervous system (Brain), Tooth structure, dental formula, in Mammals

* Comparitive study of respiratory system, heart of all vertebrates.

ANNEXURE – III

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
FIRST YEAR ZOOLOGY
(w.e.f. 2015-2016)

PRACTICAL PAPER – I

ANIMAL DIVERSITY OF INVERTEBRATES

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

Protozoa - Paramoecium - binary flssion and Conjugation.

Porifera - Spongilla,
Coelenterata - Physalia, , Gorgonia,

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

Annelida - Nereis, Hirudo, Trochophore larva.

Arthropoda -, Peripatus.

Mollusca - Unio, Sepia, Octopus Glochidium larva.

Echinodermata - Asterias, Ophiothrix, Bipinnaria larva.

Hemichordata - Balanoglossus,Tornaria larva.

Demonstration of dissection/ dissected / Virtual Dissections:

1. Nervous system of Prawn
2. Appendages of Prawn

ANNEXURE – III

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
FIRST YEAR ZOOLOGY
(w.e.f. 2015-2016)

PRACTICAL PAPER – II

ANIMAL DIVERSITY OF VERTEBRATES

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

Cyclostomata: Petromyzon, Myxine.

Pisces: Hippocampus, Exocoetus, Scales of fishes,

Amphibia: Amblystoma, Axolotal larva, Hyla, Rachophous.

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

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

Mammalia: **Ornithorthynchus**, Pteropus.

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

Demonstration of dissection/ dissected / Virtual Dissections:

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

- **Laboratory record work shall be submitted at the time of Practical Examination.**

- **Compulsory one species to be adopted for demonstration only by the faculty.**

REFERENCE BOOKS

1. The lnvertebrates' by L,H. Hyman. vol I, II and v. - M.C. Graw Hill company Ltd '
z. lnvertebrate Zoology' - A functional Evolutionary approach. Ruppert, Fox and Barnes., Thomas publishers' Indian Edition'
3. lnvertebrate Zoology' by E.L. Jordan and P.S. Verma., S.Chand and company'
4.'lnvertebrateZoology'byR'D'Barnes:W'B'SauwondersCO"1986'
5.,lnvertebratestructureandFunction,byBarrington.E'J.W.,ELBS.
6. A student text book of Zoology' by Sedgwick, A., Vol-I, II arrd III - Cerrtral Book Depot, Allahabad.
7. A text book of Zoology, by Parker, T'J' and Haswell, W'A., Mac Millan Co. London.
8. 'Textbook of lnvertebrates' by Kavita Juneja and H'S' Bhamrah'
9. Modern text book of zoology vertebrates…….R.L Kotpal
10.text book of vertebrata ……zordan &verma

Chemistry

ANNEXURE - I

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM
FIRST YEAR B.Sc. CHEMISTRY
FIRST SEMESTER
COURSE -I: INORGANIC CHEMISTRY-I, GENERAL CHEMISTRY-I
(w. e. f. 2015-2016)

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1. s,p-block elements: 14h

General characteristics of groups I & II elements, diagonal relationship between Li & Mg, Be & Al.

Oxides and Halides of elements of groups 13, 14, 15

Group – 13: Synthesis and structure of diborane,Triborane & tetraborane, B3N3H6,BN (Elementary structural treatment)

Group – 14: Preparation and applications of silanes and silicones.

Group – 15: Preparation and reactions of hydrazine, hydroxylamine.

2. Atomic Structure and elementary quantum mechanics 8 h

Blackbody radiation, Planck's radiation law, photoelectric effect, Compton effect, de Broglie's hypothesis, Heisenberg's uncertainty principle. Postulates of quantum mechanics(derivation not required) Schrodinger wave equation and a particle in a one dimensional box,and derivation of Schrodinger wave for a one dimensional box, Schrodinger wave equation for H-atom. quantum numbers and their importance.

3. Chemical Bonding 8 h

Valence bond theory, hybridization: postulates of VB theory and applications to the structures of ClF3,BrF5,XeF2,XeOF4. **Dipole moment**:dipole moment and structures of molecules of CO2,H2O,OF2 **Molecular orbital theory** : LCAO method, construction of M.O. diagrams for homo-nuclear and hetero-nuclear diatomic molecules (N_2, O_2, CO and NO). Comparision of VB and MO theories.

4. P-BLOCK ELEMENTS **9h**

Group – 16: preparation,properties and structures of O3,SO2,SO3.

Group – 17: Inter halogen compounds: preparation and structures of ICl,IF7 and pseudo halogens(Cyanogen)

General Principles of Inorganic qualitative analysis

Solubility product, common ion effect, characteristic reactions of anions,separation of cations into groups, group reagents.testing of cations-Pb+,NH4+,Ni+2,Ca+2

5. Nuclear Chemistry **10 h**

Chemical reaction and nuclear reaction, Composition of nucleus, nuclear stability, mass defect, Binding energy, Packing fraction, n/p ratio, natural radio activity, group displacement law, half life period, radioactive disintegration series, artificial transmutation of atoms, classification of nuclear reactions, nuclear fission and nuclear fusion.

6. Stereochemistry-I

10 h

Molecular representations-Wedge,Fischer,Newman and saw-horse formulae.

Stereoisomerism: Optical isomerism: enantiomers, diastereomers- definition and examples.

Optical activity- optical rotation and specific rotation(definitions only). Elements of symmetry (plane,axis,inversion,rotation-refletion) examples : Glyceraldehyde, Lactic acid, Alanine

Definition and examples of D,L and R,S configuration Cahn-Ingold-Prelog rules. Racemic mixture- racemisation and resolution techniques.

ANNEXURE - II

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM
FIRST YEAR B.Sc. CHEMISTRY
SECOND SEMESTER
Core Course-I: ORGANIC CHEMISTRY AND PHYSICAL CHEMISTRY
(w. e. f. 2015-2016)

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1. Structural theory in Organic Chemistry **14h**

Types of bond fission and organic reagents (Electrophilic, Nucleophilic, and free radical reagents

Electron displacement mechanism: (i) inductive effect. Application of inductive effect (a) Basicity of amines (b) Acidity of carboxylic acides (ii) Resonance or Mesomeric effect, application to (a) acidity of phenol, and (b) acidity of carboxylic acids.(iii) Hyper conjugation and its application to stability of carbonium ions.

Types of Organic reactions : Addition – electrophilic, nucleophilic and free radical. Substitution

– electrophilic, nucleophilic and free radical. Elimination-(E1,E2) Examples (mechanism not required).

Alicyclic hydrocarbons (Cycloalkanes)

Nomenclature, Preparation by Freunds methods, heating dicarboxylic metal salts. Properties – reactivity of cyclopropane and cyclobutane by comparing with alkanes, Stability of cycloalkanes – Baeyer's strain theory,

2. Gaseous state **9 h**

Compression factors, deviation of real gases from ideal behavior. Derivation of Van der Waal's equation of state Andrew's isotherms of carbon dioxide, continuity of state. Critical phenomena. Relationship between critical constants and vanderwaal's constants. The law of corresponding states and reduced equation of states. Joule-Thomson effect. Liquefaction of gases: i)Linde's method and ii) Claudes method.

3. Solutions **7h**

Liquid-liquid solutions,Types of solutions
(a)completely miscible solutions: Raoult's law. Ideally dilute solutions, Henry's law. Non-ideal solutions. Vapour pressure – composition and vapour pressure-temperature curves.

Azeotropes-HCl-H_2O, ethanol-water systems and fractional distillation. (b) Partially miscible liquids-phenol-water, trimethylamine-water, nicotine-water systems. Effect of impurity

on consulate temperature.(c) Immiscible liquids and steam distillation.
Nernst distribution law. Calculation of the partition coefficient. Applications of distribution law.

4. Acyclic Hydrocarbons 15 h

Alkanes– Methods of preparation: Hydrogenation of alkynes and alkenes, Wurtz reaction, Kolbe's electrolysis, Corey- House reaction. Chemical reactivity – inert nature, free radical substitution mechanism. Halogenation example
Alkenes – Preparation of alkenes (a) by dehydration of alcohols (b) by dehydrohalogenation of alkyl halides (c) by dehalogenation of 1,2 dihalides. Properties: Addition of hydrogen. Addition of Br2 and its mechanism. Markonikov's rule: Addition of HX, addition of H_2O, H_2SO_4 and anti – Markonikov's addition: addition of HBr in the presence of peroxide. Oxidation – hydroxylation by $KMnO_4$, peracids (via epoxidation)
Alkynes – Preparation by dehydrohalogenation of dihalides, dehalogenation of tetrahalides, Properties; Acidity of acetylenic hydrogen (formation of Metal acedtylides). Preperation of higher acetylenes, electrophilic addition of H_2O (Tautomerism), Polymerisation reaction of acetylene.

Benzene and its reactivity
Concept of aromaticity – aromaticity (definition), Huckel's rule – application to Benzenoid (Benzene, Napthalene) and Non – Benzenoid compounds (cyclopropenyl cation, cyclopentadienyl anion and tropylium cation)
Reactions – General mechanism of electrophilic substitution, mechanism of nitration. Friedel Craft's alkylation and acylation. Orientation of aromatic substitution – Definition of ortho, para and meta directing groups. Ring activating and deactivating groups with examples R= -CH3, -NO2,-Cl. Orientation of monosubstituted benzene with R= -CH3, -NO2,-Cl.

5. Solid state 09 h

Symmetry elements in crystals. Laws of crystallography
.Definition of lattice point, space lattice, unit cell. Bravis lattices and crystal systems. X-ray diffraction. Bragg's law.

structure of NaCl and KCl crystals.(elementary treatment)
Defects in crystals. Stoichiometric and non-stoichiometric defects. Band theory of semoconductors. Extrinsic and intrinsic semiconductors, n- and p-type semiconducto and their applications in photo electrochemical cells.

6. Colloids and surface chemistry 6 h

Definition of colloids.(a) Solids in liquids(sols), preparation, properties - kinetic,optical,electrical. Stability of colloids, Hardy-Schulze law, protective colloid.
(b)Liquids in liquids (emulsions) preparation, properties, uses.(c) Liquids in solids (gels)
preparation, uses.
Adsorption: Physical adsoption, chemisorption. Freundlich, Langmuir adsorption
isotherms. Applications of adsorption

Textbooks/Referancebooks

Inorganic Chemistry

1. Concise Inorganic Chemistry by J.D.Lee
2. Basic Inorganic Chemistry by Cotton and Wilkinson
3. Qualitative Inorganic analysis by A.I.Vogel
4. A textbook of qualitative inorganic analysis by A.I. Vogel
5. Inorganic Chemistry by J.E.Huheey
6. Organometallic Chemistry – An introduction by R.C.Mehrotra and A.Singh
7. Selected topics in inorganic chemistry by W.D.Malik, G..D.Tuli, R.D.Madan
8. Concise coordination chemistry by Gopalan and Ramalingam

Organic Chemistry

1. Organic Chemistry By R T Morrison and R.N.Boyd
2. Organic Chemistry by T.J.Solomons
3. Problems and their solutions in organic Chemistry by I.L.Finar
4. Reaction mechanisms in Organic Chemistry by S.M.Mukherji and S.P.Singh
5. Text book of Organic Chemistry by K.S.Mukherjee

Physical chemistry books.

1. Physical chemistry A molecular approach by Donald A. Mcquarrie and John D. Simon.
2. Physical chemistry by G M Barrow
3. Principles of physical chemistry by Prutton and Marron
4. Physical chemistry by Peter Atkins, Julio D. Paula
5. Physical Chemistry by Ira N Levine
6. Elements of Physical Chemistry by Peter Atkins, Julio D. Paula
7. Text book of physical chemistry by K L Kapoor
8. Text book of physical chemistry by S Glasstone
9. Quantum chemistry by Manas chanda

ANNEXURE – VI

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

LIST OF PRACTICALS
Paper - I

LABORATORY COURSE- I **90 hrs (3 h / w)**

Practical Paper – I (Inorganic Chemistry)

Qualitative Analysis and Inorganic preparations:

Analysis of mixtures containing two anions (one simple and one interfering) and two cations (of different groups) from the following:

Anions: Carbonate, sulfide, sulphate, chloride, bromide, iodide, acetate, nitrate, oxalate, tartrate, borate, phosphate, arsenate* and chromate*.

Cations: Lead, copper, bismuth, cadmium, tin, antimony, iron, aluminum, zinc, manganese, nickel, cobalt, calcium, strontium, barium, potassium and ammonium.

*not to be given for examination.

Preparations: Any three of the following inorganic preparations:

1) Ferrous ammonium sulphate

2) Tetrammine copper (II) sulphate
3) Potassium trisoxalato chromate
4) Potash alum $KAl(SO_4)_2. 12H_2O$

5) Hexammine cobalt (III) chloride.

Home Science

Annexure I
SYLLABUS FOR THE I & II SEMESTER 2015-17

MODULE- HSC.101 PSYCHOLOGY & PERSONALITY DEVELOPMENT

Learning Outcome

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

Theory

Unit I Psychology -Introduction, scope and branches of Psychology

- Methods of Psychology- observational, experimental, clinical and survey
- Motivation- definition –Psychological basis- classification- physiological and psychological and social motives, unconscious motivation
- Emotion – Definition, components and development of emotion

Unit II Cognition and its processes- meaning, importance

- Attention- Attention types and its determinants
- Perception –Object perception and perceptual constancies, organization of perception

Unit III Learning & Memory- Definition and Importance,

- Methods of learning - Theories of learning- classical and operant conditioning, trial and error, acquisition of skills,
- Memory - types of memory, nature of forgetting and methods to improve memory

Unit IV Intelligence – Definition and factors affecting intelligence.

- Emotional Intelligence- Definitions and Significance
- Aptitude and Interest- Definition of the terms and importance

Unit V Personality- Definition, Dimensions & Types

- Factors influencing personality

References:

1. Anastasi, A. (1988). Psychological testing (6th edition).New York: Macmillan
2. Bloom,B.S., Madaus,G.J.Hastings,J.T.(1981). Evaluation to improve learning. New York: McGraw Hill.
3. Cronbach, L.J. (1990). Essentials of Psychological Testing (5th edition).New York:
4. Introduction to Psychology – Morgan C. T., King R. A.
5. Mangal, S.K, Introduction to Psychology

MODULE-HSC102. HUMAN PHYSIOLOGY

Learning Outcome:

To introduce structure and function various system of the body

Theory

Unit I Introduction to various systems of the body

- Animal Cell and Tissue : structure, functions of each component of the cell,
- Tissues: Functions of various types of tissues
- **Skeletal system-** Bones and Joints- Types & function
- **Nervous system**- Structure of neuron, reflex action , spinal chord , brain and their membrane, autonomic nervous system,

Unit II Digestive &Excretory system

- Structure and functions of salivary glands, stomach, small intestine, pancreas, and liver.
- Organs of excretion, their structure and functions (Kidneys, ureters and Urinary Bladder)
- Mechanism of urine formations.
- Skin - Structure and functions of skin, Regulation of body temperature.

Unit III Circulatory & Cardiovascular system

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

Unit IV Male & Female Reproductive System

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

Unit V Endocrine glands- Hormone and their influence on metabolism and reproduction

- Structure and function of pituitary gland, thyroid gland, Adrenal gland and Pancreas

References:

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

MODULE- HSC103. HEALTH, HYGIENE &MICROBIOLOGY

Learning Outcome:

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

Unit I Health – Definition & meaning

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

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

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

Unit III Mode of infection

- Food borne diseases caused by microorganisms-Typhoid, Cholera, Dysentery, Amoebic dysentery, Jaundice
- Diseases transmitted by Mosquitoes- malaria, falariasis and control methods.
- Disease caused by direct contact through cuts and abrasions, skin disease, conjunctivitis, leprosy, tetanus

Unit IV Prevention & Control

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

Unit V Immunity

- Immunity- definition & types
- Immunization schedule

References:

1. Frazier, W. Candwestnoff,D.C (1997) Food Microbiology, Tata McGraw Hill
2. A.S. Rao 2001 Introduction to microbiology, Prentice Hall of India
3. Anna k. Joshua, Microbiology, popular book depot, Madras
4. Pelczar and Reid, 1983, Microbiology, Tata McGraw-Hill Publishing Company LTD.
5. R. Ananthanarayanan, C.K.J. Paniker, 2001, Orient Longman Private Limited.
6. Hans G.Schlegel, 2002, 6th edition, Cambridge low price editions
7. General Microbiology , 1982, power &Daginawala, Himalaya Publishing House
8. Stanier R. Y., Adelberg, E.A. and Ingraham, J.L. (1989) General Microbiology.
9. Atlas R. M. (1988) Microbiology, fundamentals and application. Micmillon N.

MODULE- HSC.201. INTRODUCTION TO HUMAN DEVELOPMENT

Learning Outcome

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

Theory

Unit I: Introduction

- Human Development: Definition, brief history and interdisciplinary nature
- Scope of the Human Development in contemporary society

Unit II: Lifespan Approach to Development

- Domains and stages of development
- Concepts and Principles of growth and development
- Determinates of Development- Heredity and Environment, Maturity and Learning

Unit III: Prenatal development

- Conception and Reproduction
- Prenatal development
- Pregnancy - care during pregnancy

Unit IV: Delivery and Birth process

- Stages of Delivery &Types of birth
- Characteristics of new born,
- Physiological changes and adjustments in post natal life
- Postnatal care of nursing mother

Unit V: Care of New Born Baby

- Care of full term and Premature babies
- Reflexes in new born
- Stimulation and its importance

Reference

1. Grace.J.Craig, 1976, Human Development, Prentice Hall INC, New Jersy, p-p 1-3.
2. Papalia D.E and Old S.W. 1978, Human Development, McGrawHillInc, London p-p 3-5.
3. Kaluger, George and Kaluger, Merriam Fair (1979). "Human Development: The span of life" ,C.V Mosby Company, New York.
4. Santrock, J. W. (2006). Child development. New York: McGraw Hill.

MODULE - HSC202.NUTRITIONAL BIOCHEMISTRY

Learning Outcome:

- Know the basic mechanisms involved in water and acid-base balance.
- Understand the macro nutrients and micro nutrients in terms of their composition, Classification, sources, functions and metabolism
- Learn about Vitamins & Minerals- their sources, function and deficiencies.

Unit I Introduction to Nutritional Biochemistry

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

Unit II Carbohydrates

- Composition, classification, sources and functions of carbohydrates
- Metabolism of carbohydrates- Glycolysis, gluconeogenesis, TCA cycle

Unit III Lipids

- Composition, classification, sources and functions of lipids
- Lipids metabolism- ß-Oxidation and biosynthesis of fatty acids, Ketone bodies

Unit IV Proteins

- Definition, composition, classification, sources and function
- Metabolism of proteins - urea cycle

Unit V Micronutrients, Enzymes, Hormones

- Vitamins - Classification, function, sources and deficiency of vitamins.
- Minerals – sources, function and deficiency of Minerals

References

1. West E. S. Todd; Textbook of Biochemistry – Amerind Publishing Co. Pvt. Ltd.
2. Murry, R K Granner, D K Mayes, PA and Rodwell, V.W (1993); 23rd Ed Harpens Biochemistry.
3. Bamji, M. S, PrahladRao.N&Vinodinireddy, 2003, Text book of Human Nutrition, Oxford & IBH Publishing Co. PVT. LTD, New Delhi p-p 105-107.
4. Davidson. S.S. &Passmore R. 1966, Human Nutrition and Dietetics, the Williams and Wilkins company, p-p 145-157.
5. Gordon Wardlaw Gordon M. &Insel Paul M., 1992, Contemporary Nutrition, Mosby year Book, Boston p-p 304-305.
6. Robert E.C. Wildman, Denis M. Medeiros – Advanced Human Nutrition, 2000, CRC Press, Boca Raton p-p 238-243.
7. Swaminathan, M. 1997, Essentials of Food and Nutrition, vol I Second edition, BAPPCO, Bangalore.p-p 383-385

MODULE- HSC203.RESOURCE MANAGEMENT

Learning Outcomes:

- To inculcate skills in identifying, creating, selecting and using available resources judiciously with emphasis on maximization and conservation.
- To understand the scientific application of the process of management in the effective use of resources.

THEORY

Unit II Introduction to Resource Management

- Concept, scope and significance of management
- Management Process- its importance
- Characteristics of good manager

Unit II Approaches to Family Resource management –Meaning, Importance & Types,

- Interrelationship between Value, Goals and Standard
- Resources -Meaning, Classification, Importance and Characteristics
- Factors affecting management of resources.

Unit III Decision Making – importance, types, steps, method of resolving conflicts

- Planning – nature, characteristics, importance
- Organizing; Coordinating, Supervising, directing and guiding;
- Controlling- characteristics for effective control
- Evaluation – meaning, importance and methods

Unit IV Application of Management Process in:

- Time - significance, time norms, peak loads
- Energy – work curves, work units
- Ergonomics in home-Work simplification- Body mechanics, Mundel's classes of change work study techniques---pathway chart ,operation chart

Unit V Fatigue -meaning, types

- Methods of avoiding fatigue

References:

1. Home Management for Std. XI, by M.A. Verghese, N. N. Ogali, K. Srinivasan
2. Elements of Home Science by PremlataMallick.
3. Management in the Home by M. LilliamGilberth.
4. Management in Family by Living, Nickell / Dorsey.

Paper IV. HUMAN DEVELOPMENT

Theory - 4 lec / week Theory- 100 marks
Practical -3 hrs/week Practical-50 marks

Objectives

1. To introduce the concepts, importance and scope of the study of human development.
2. Tostudy various areas of Human development from conception till adolescence
3. To learn about various factors affecting human development

Theory

Unit No.1 Introduction – Need, Importance and Scope of Human development

- Concepts in Human Development
- Relationship of human development with other disciplines
- Areas of human development
- Methods of child Study

Unit No.2 Growth and Development- Principles and Factors

- Role of Heredity and Environment on Growth and Development
- Developmental Tasks andStages-Meaning, importance
- Prenatal period, Infancy period, Toddlerhood, Early childhood, Middle childhood, Adolescence and Adulthood

Unit No.3 Pregnancy, Delivery and Birth Process

- Conception and Fertilization -Signs and symptoms of pregnancy
- Minor and Major discomforts during pregnancy , Danger signals in pregnancy and Common physical hazards during prenatal period
- Effects of unfavorable Prenatal Conditions and Care during pregnancy
- Stages of prenatal period - Period of ovum, Period of embryo, and Period of fetus
- Delivery and complications during birth

Unit No.4 Characteristics and Care of New Born Baby

- Characteristics of new born, Physiological changes and adjustments in post natal life
- Reflexes in new born and care of the new born
- Care of Premature babies
- Postnatal care of nursing mother

Unit No.5 Development during Infancy /Babyhood- Developmental milestones

- Physical and Motor development
- Emergence of emotions during infancy and its development in later stages
- Social development during infancy
- Language Acquisition during infancy
- Cognitive process and Cognitive Development-Factors
- Significance of early stimulation- objectives, Areas of early stimulation and activities

Unit No.6 Early Childhood Period – Importance & Characteristics

- Physical and Motor Development
- Cognitive skills in early childhood
- Language Development
- Emotional Development - Characteristics of children's emotions
- Socialization Process -Agent of Socialization
- Moral Development

Unit No.7 Late Childhood – Meaning, Importance, Characteristics and Developmental tasks

- Physical and Motor
- Changes in Cognitive Abilities
- Social and Emotional Development
- Moral Development during school age
- Role of Family, School and Peer on overall development of school Age Children
- Puberty-Meaning, Changes-Physical, Physiological and Psychological
- Early and late maturation –effects on adolescent personality

Unit No.8 Adolescence -Meaning, Importance, Characteristics, Developmental tasks,

- Cognitive Development
- Emotional Development- Heightened emotionality , Emotional catharsis
- Social Attitudes and Behaviour during Adolescence- Influences of Peer group
- Morality During Adolescence
- Personality Development-Identity development and identity problems- delinquency, drug abuse, tobacco and smoking, alcohol and drinking, suicidal tendency, runaways- Factors and Preventive Strategies
- Problems During Adolescence- self, home and community related

PRACTICALS

Module1.

1. Study of Cultural practices with regard to Pregnancy and Child birth
2. Assessment of growth and development by using anthropometry – infant, toddler,
3. Preparation of resource files on care during prenatal period and early childhood
4. Case study of children of different age group

Module2.

1. Preparation of daily profile of a school going child/adolescent.
2. Case study report of a school going child/ adolescent.
3. Preparation of Stimulation material
4. Study of adolescent problems
5. Measuring self-concept/ self-esteem of an adolescent
6. Visit to vocational guidance and counseling center.
7. Development of resource files on various aspects of human development.

References

1. Grace.J.Craig, 1976, Human Development, Prentice Hall INC, New Jersy, p-p 1-3.
2. Papalia D.E and Old S.W. 1978, Human Development, McGrawHillInc, London p-p 3-5.
3. Kaluger, George and Kaluger, Merriam Fair (1979). "Human Development: The span of life" ,C.V Mosby Company, New York.
4. R.P. Devadas&N.Jaya, 1984, "A text book on Child Development", Macmillan India Ltd, Madras

Paper V- FOUNDATION OF FABRIC AND APPAREL CONSTRUCTION

Theory - 4 lec / week — Theory- 100 marks
Practical - 3 hrs/week — 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) Manmade 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 stiches
- 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. Stitches- 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

Paper VI: HOUSING AND INTERIOR DECORATION

Theory - 4 lec / week	Theory- 100 marks
Practical -3 hrs/week	Practical-50 marks

Learning Objectives

1. To learn aboutvarious 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 Housingand 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-5 Furnishing 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) by differentmethod.

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

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. Art in Everyday Life - Harriet Goldstein Mac Millan Co. New York.
4. Colour Trends- Vol. I, Ethnic, Japanese, High- Tech Colors, AIM Creative Products Pvt. Ltd.
5. Colour- A guide to basic facts and concepts, John Wiley & Sons, New York.

Paper IX. TEXTILE CHEMISTRY & FASHION DESIGNING

Theory - 3lec / week	Theory- 100 marks
Practical - 3 hrs/week	Practical-80 marks

Objectives

1.To give the basic knowledge of design and fashion.
2. To enable intelligent selection, use and care of textiles and garments in relation to the individual.
3. To know and appreciate traditional textiles of India.

Theory

Unit1. Dye and Dyeing – General principles, function

- Classification – Natural and synthetic - Methods of application -
- Natural Dyes - vegetable, animal, and mineral
- Synthetic- Direct, vat, mordant, acid, basic, disperse etc.
- Methods dyeing-Fiber, Yarn, Fabric, Garment

Unit 2. Printing- Type- hand and machine printing

- Styles of printing- Direct, Resist, Discharge printing
- Methods of Printing- Flat bed, Roller, Block, Discharge, Resist, Stencil, Bubble, Burn out, and Flocking

Unit 3. Fabric finishes

- Mechanical Finishes- Stentering, Calendaring- Embossing, Moire Effect, Sanforizing, Pressing,Decating, Napping, Flocking, Beetling and Softening
- Stiffening finishes- Starching, Weighting, flocking
- Cotton Finishes – Mercerizing, Parchmentization
- Wool finishes- Moth proofing, crabbing, Decantizing
- Synthetic Finishes- Delusturing,Antipilling, durable press etc.

Unit 4.Traditional Indian Textile

- Indian embroidery stitches
- Traditionally dyed, printed, woven and embroidered textiles present in various states of India
- Indian costume

Unit5. Design and fashion–

- Elements of fashion design
- Principles of design in textiles and clothing

Unit 6.Fashion merchandising- importance and steps

- Fashion- definition, and principle of Fashion
- Fashion cycle, factors affecting fashion

Unit 7. Clothing – functions,

- Factors involved in making selection-Fiber content, Yarn & fabric structure etc.
- Family Clothing&household linen - selection for men, women, college going and children, carpets and upholstery etc.
- Selection of Ready- made garments and their evaluation
- Basic and Special buying consideration
- Consumer buying- Budget, Advertising, Labels and Standards

Unit- 8 Fabric maintenance-

- Laundering process, Soaps and Detergents, bleaches, Fabric softeners, Dis-infecting and storage of clothes
- Guidelines for laundering – Drying, Dry cleaning, Pressing,
- Principles of laundry and dry cleaning
- Stain removal-Steps in removing stain

PRACTICALS

Unit 1. Basic Designing using elements of fashion design

- Construction of Blouse, Chudidar and Kameez
- Different types of designs- Floral, animals, geometrical & Human Motifs.
- Selection of appropriate design.
- Motif enlarging & reducing.
- Fabric painting

Unit 2. Hand stitches Samples -Functional, Traditional

- Knitting and applique work

Unit 3. Dyeing and printing

- Tie and dye and Batik
- Block printing

Unit 4. Evaluation of Ready-made garments

- Size labels
- Symbols and usage of care labels

Unit 5.Care and maintenance of different fiberfabrics- cotton, wool and silk

- Pre preparation, washing, bluing, stiffening.
- Mending and darning
- Stain removal

REFERENCES

1. Corbman P. B., (1989), Textiles- Fibre to Fabric, 6 edition, McGraw Hill, New York.
2. D'souza, N., (1998), Fabric Science, New Age International Pvt. Ltd., Delhi.
3. Darlie.O.Koshy (2008), Indian Design Edge, Lotus Collection, Delhi.
4. Ghosh, G.K., and Ghosh, Shukla (1995), Indian Textiles, APH Publishing Co., New Delhi
5. Marshall S G, Jackson H O, Stanley MS, KefgenM&Specht T, (2009), Individuality in Clothing & Personal Appearance, 6th Edition, Pearson Education, USA.
6. Sekhri S., (2011) Textbook of Fabric Science: Fundamentals to Finishing, PHI Learning, Delhi.

Paper XI. FAMILY, COMMUNITY & THERAPEUTIC NUTRITION

Theory - 3lec / week — Theory- 100 marks
Practical - 3 hrs/week — Practical-80 marks

Learning objectives

1. To understand the importance of balanced diet, meal planning, community nutrition & medical nutrition therapy .
2. To learn the dietary management of various diseases.
3. To know about various national and international agenciesworking in the field of health and nutrition.

Theory

Unit 1. Balanced Diet- Balanced diet& nutritional requirements for diff age groups

- Energy requirement-Energy units, determination of energy by using Bomb Calorimeter,
- Basal Metabolism- Factors affecting BMR
- Recommended Dietary allowances (RDA)for Indian – Definition, Advantages
- Food exchange lists- Importance Types and Advantages of food exchanges

Unit 2. Meal planning – Importance,

- Principles of meal planning and points to be considered in planning diets
- Steps involved in planning diets.
- Meal planning for different age groups –infancy, preschool children, School going children, Adolescent boys and girls, adult and old age,Physiological conditions
- Maternal nutrition - Nutritional requirementsPregnancy and Lactating condition
- Factors affecting meal plans

Unit 3. Assessment of nutritional status of the community

- Purpose of nutritional assessmentMalnutrition- under nutrition and over nutrition
- Methods of nutritional assessment -Direct -Anthropometry,Clinical, Biochemical
- Indirect- Diet surveys and health records

Unit 4. Community health & nutrition programmes

- **I**CDS-Supplementary feeding, Health and nutrition education, Prophylaxis programme, mid-day meal scheme etc.
- Internationalorganizations involved in Nutritional programme- FAO,WHO, UNICEF, CARE
- **Food Adulteration**: Types of adulterants used in different foods, harmful effects
- Prevention – Food Adulteration Act, Food standard- ISI, AGMARK,

Unit 6. Introduction to Medical Nutrition Therapy (MNT) – Definition, Type and Purpose andadvantages

- Therapeutic Adaptation of Normal diets – Liquid and soft diet,
- Diet in nutritional deficiency – PEM, Anaemia, Vitamin Deficiency, Goitre
- Under weight- causes symptoms, Dietary management

- Over weight and obesity- causes symptoms, Dietary management

Unit 7. Dietary management during different diseases

- Fever – Type and MNT
- Gasrto Intestinal disorders -Peptic ulcer, Diarrhea- dehydration and oral rehydration therapy,constipation – causes, complications, MNT
- Liver and Kidney Diseases - causes and dietary management
- CVD and Atherosclerosis - causes symptoms, Dietary management
- Diabetes- causes, Dietary management

Unit 8. Dietitian and other nutritional workers –

- Types and functions of dietitian
- Role of dietitian as a member of medical team
- Role of Nutritional workers

PRACTICALS

Unit 1. Preparation of Cooked Food Exchange Lists -Cereals, Pulses, Vegetables and fruits

Unit 2. Rich Sources of Nutrients -Listing out five rich sources each of various nutrients- Energy, Protein, Calcium, Iron, Vitamin A, B- complex and C

Unit 3.Nutritional assessment- Diet survey, Anthropometry survey and Blood Hb level

Unit 4.Evaluation of Nutritional Adequacy of Diet Consumed

- Nutritional Guidelines -24 hours Recall method,
- Preparation of diet plans and calculation of nutrient adequacy

Unit 5. Menu Plan- Diet for an Adult Man and Woman

- Diet for a Pregnant Woman and Lactating Mother
- Diet for a Pre School and School going Child

Unit 6. Planning of modified diets for therapeutic purpose

- Preparation of modified diets in terms of consistency- liquid and soft diet
- Foods to be included or excluded in different diseases

Unit 7. Therapeutic Modification of Diets

- Diet in fevers
- Diet in Gastro Intestinal Tract Disorders
- Diet in CVD
- Liver diseases- Jaundice
- Diet for weight Control

Unit 8.Visit to dietetic department ofhospital

- Preparation of a resource file

References

1. Antia, P. (1986). Clinical dietetics and nutrition. Oxford univ. Bombay
2. Moris,E.S. (1994). Modern nutrition in health and disease. Leaned febiger, USA
3. Srilakshmi, B. (1995). Dietetics.Newage international publishers, New Delhi
4. Corinne H. Robinson, Marilyn R. Lawler, Wanda L. Chenoweth, Ann E. Garwick. (1982). Normal and Therapeutic Nutrition. (pp- 1-16). New York, Macmillan Publishing company.

Paper VII. SOCIOLOGY, MARRIAGE AND FAMILY RELATIONS

Theory - 4 lec / week Theory- 100 marks

Objectives

1. To introduce students various aspects of marriage, family, gender issues.
2. To orient the students with the changing trends in family and parenting.
3. To introduce the concept of guidance and counseling.

Theory

Unit 1. Sociology- meaning, importance and scope-

- ❖ Relationship of sociology with home science;
- ❖ Understanding basic sociological concepts: society, community, association, institution
- ❖ Social groups; Social structure: Family, Caste, Class, Kinship

Unit 2 Social Institutions-Family, Marriage, Religion and educational institution

- ❖ Elements of social system
- ❖ Differences between tribal, rural and urban society

Unit 3. Culture-meaning, importance, cultural components-norms, customs, mores,folkways

- ❖ Prevailing problems of our society – Poverty, Illiteracy, Malnutrition, Beggary, Delinquency, Prostitution, Corruption and Communal Problem
- ❖ Social change: Meaning and Importance, Social Progress with special reference to women.

Unit 4. Marriage in Indian Society-Meaning and definition

- Goal and Function of marriage
- Types of Marriage-Prevalent form of marriage in India
- Readiness for marriage-Psychological,Social, Physiological, Economical
- Preparation for marriage - (i) Selecting a suitable partner, (ii) Premarital association

(iii) Premarital guidance and counseling

Unit 5. Marital Adjustment-Areas of adjustmentwithinthe familyat different stages of family life cycle and occupational cycle.

- Marriage trends: contributory factors of marital discord, dysfunctional relationship and its consequences on child's psychosocial development.

Unit 6. Family - Meaning, Definition, Function and Structure of family

- Nuclear and joint families- Differential structure, roles, interaction and hierarchy of dominance in joint and nuclear families.
- Family trends: Single parent family, Childless family, Dual earner family, Live in relationships.

Unit 7. Preparation for Parenthood- Sex Education, Methods of Family Planning

- Population Control- consequences of uncontrolled population

- Parent Child Relationship-Parenting Style/ child rearing practices and disciplinary techniques.
- Parenting responsibilities- Physical, social, emotional, financial and legal responsibilities. Parents' contribution in fostering developmental needs of children such as learning, social, emotional and cognitive development.

Unit 8. Families at risk-(a) Marital disharmony (b) Separation (c) Violence and distress

- **Legal Aspects of Marriage**- (a) Hindu law of Marriage (b)Muslim Law of Marriage (c) Christian Law of Marriage.
- Legal Aspects of Women and child welfare
- **Marriage and Family Counseling**-Need and Importance
- Types, Procedures and Process of counseling
- **Status of women in the modern world** – Education, Employment, Economic Responsibilities and privileges

References:

1. Rice F.P. Marriage and Parenthood. Allyn and Bacon Inc. Toronto.
2. Rice F.P. 1983. Contemporary Marriage. Allynand Bacon Inc. Toronto.
3. Reddy VNK, 1978. Marriages in India, The Academic Press Gurgaon.
4. Landis and Landis 1968. Building as Successful Marriage Prentice Hall Enc.
5. Duval I.M. 1962 Family Development J.P. Lippincot Co.
6. Winch R.F. 1963. The modern Family, Holt Rinehart and Winston.

Paper VIII. EARLY CHILDHOOD CARE AND EDUCATION

Theory - 3lec / week	Theory- 100 marks
Practical - 3 hrs/week	Practical-30 marks

Objectives

1. To introduce the need and importance of early childhood education.
2. To understand the contribution of Western and Indian Philosophers to ECE.
3. To know about the requirement and activities of ECE to bring out all round development in children.

Theory

Unit 1. Early childhood period

- Meaning, Characteristics ,Significance of early childhood period
- **Early childhood education -**Concept of ECCE, Types and Need for ECE
- Brief History of ECE -Status of ECE during Pre and Post-Independence period
- Objectives of ECE Programme

Unit 2. Basic requirements of an ECE center

- Indoor and out- door space, Size of the class, Staff, Number of children, Teacher child ratio, Curriculum, Building facilities, Areas and equipment
- Records and reports maintained in ECE center

Unit 3. Contributions ofWestern Philosophers to Early Childhood Education in brief

- Jean Jacques Rousseau (1712 – 1798)
- Friedrich Wilhelm August Froebel (1782 – 1852)
- John Dewey (1859-1959)
- Maria Montessori (1870 – 1952)to ECCE:
- McMillan Sisters
- Pestalozzi

Unit 4.Contributions of Indian Philosophers to Early Childhood Education in brief

- Mahatma Gandhi
- Rabindranath Tagore (1861-1941)
- Sri Aurobindo (1872-1950)
- Jiddu Krishnamurthy
- TarabaiModak (1892 – 1973)

Unit 5. Curriculum Planning during early childhood period

- Types of Curriculum Planning- Long term, Short term,Weekly, and Daily
- Steps in curriculum planning
- Factors - Child related, Parent & Community related
- Characteristics of a good plan

Unit 6. Play- Purpose and functions

- Types of play activities and their values-
- Outdoor activities-Water Play, Sand Play, Gardening activities, Field trips
- Indoor activities -Block Play,Dramatic play, Creative activities
- Ways of fostering creativity -Easel painting Finger painting, Collage work, Dough & clay, Dance and Music

- **Cognitive activities**- Language activities, Rhymes, Stories, Puppet &Dramatic play

Unit 7.Types of ECCE centers in brief

- Nursery school
- Kindergarten school
- Montessori school
- School for disadvantaged -Head start, Balwadi,Anganwadi
- Creches

Unit 8.Qualities of an ECE teacher- Important characteristics

- Role of teacher in organizing activities
- Parental participation in ECE programme

PRACTICALS

Unit1. Observation and recording development of preschool children (3-6 years)

Unit2. Observational visit to Early Childhood Care and Development Centers

Unit3. Planning activities using thematic approach

- Physical and motor development
- Language development
- Intellectual development
- Socio emotional Development
- Creative activities
- Science experiences

Unit4. Preparation of Teaching Aids

Unit 5. Preparation of resource file

REFERENCES

1.JagannathMohanthy and BhagyadharMohanthy, 2000,“ Early Childhood Care and Education”, Deep and Deep Publications PVT limited, New Delhi p-p.1-4.

2.J.S.Grewel, 1984, “ECE, foundations and Practice”, National Psychological Corporation, Agra, New Delhi, p-p 19-30.

3.Claudia Eliason& Loa Jenkins, 1990, “A practical guide to early child curriculum” 4th edition, Merril Publishing Company, London. P-p 3 –8.

Paper X. RESOURCE MANAGEMENT& ENTREPRENEURSHIP

Theory - 3lec / week	Theory- 100 marks
Practical - 3 hrs/week	Practical-80 marks

Objectives

1. To understand the fundamentals of resource management in a changing scenario.
2. To inculcate skills in identifying,creating, selecting and using available resources judiciously with emphasis on maximization and conservation.
3. To understand the scientific application of the process of management in the judicious use of resources.
4. To orient the students to the concept, need and process of entrepreneurship.

Theory

Unit 1. Introduction to Resource Management

- Concept, scope and significance of management
- Management Process- its importance
- Characteristics of good manager
- **Approaches to Family Resource management** -Meaning and importance, types, and interrelationship between Value,Goals and Standard
- Resources -Meaning, Classification, Importance and Characteristics
- Factors affecting management of resources.

Unit 2. Decision Making – importance, types, steps, method of resolving conflicts

- Planning – nature, characteristics, importance
- Organizing; Coordinating, Supervising, directing and guiding;
- Controlling characteristics for effective control
- Evaluation – meaning, importance and methods

Unit 3. Application of Management Process in:

- Time - significance, time norms, peak loads
- Energy – work curves, work units
- Work simplification techniques
- Mundel's classes of change
- Fatigue – meaning, types and methods of avoiding fatigue

Unit 4. Family Income& Expenditure - source and types

- Budget- items, steps
- Budget for different income group
- Types of household consumption and Engels law of consumption
- Financial records in money management

Unit 5.Consumer Economics

- Purchasing Method- Cash, Credit, Whole-Sale and Retail
- Consumer cooperative

- Consumer problems
- Consumer Protection Act- Objectives and Provisions.

Unit 6.Entrepreneurship -Meaning, Benefits

- Process of entrepreneurship development
- Entrepreneurial Development Cycle Components
    - Stimulatory activities
    - Supporting activities
    - Sustaining activities
- Characteristics of good entrepreneur

Unit 7. Setting up an Enterprise

- Enterprise selection
- Market analysis
- SWOT analysis
- Resource mobilization-finance, technology, raw materials, site, man power

Unit.8 Marketing Strategies-

- Identification of different marketing strategy
- Packaging
- Quality control
- Advertisement
- Costing and Taxation

PRACTICAL

1. Resource conservation and optimization/green technologies (natural resources)

2. Identification and development of self as a resource.
    - SWOT analysis-Who am I and Micro lab
    - Building Decision Making abilities through management games

3. Preparation of time plans for self and family

4. Preparation of Family Budget

5. Time and Motion Study
    - Managerial process
    - Resource optimization - time, money, products, space, human capital

6. Preparation of a project proposal

Reference

1 . Koontz.H.andO'Donnel C., 2005, Management – A systems and contingency analysis of managerial functions. New York: McGraw-Hill Book Compan
2. Kreitner. 2009, Management Theory and Applications, Cengage Learning: India
3. Nickell, P., & Dorsey, J.M., Management in family living (4th Edition). New York NY: Wiley.

4.Rao V.S. andNarayana P.S., Principles and Practices of Management, 2007, Konark Publishers Pvt. Ltd. Stoner J., 2008, Management.PHI Learning.

Paper XII. HOME SCIENCE EXTENSION & COMMUNICATION

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

Theory- 100 marks
Practical-30 marks

Objectives:

1. To understand the concept of extension and communication its relevance for self & national development.
2. To know the role of Home Science extension in community development.
3. To sensitize students towards various methods, preparation and selection of suitable materials for effective communication.

Theory

Unit 1.Extension- Concept, Principles and Philosophy of extension

- Objectives and scope of extension
- Extension Education process
- Role and Qualities of extension workers
- Home Science Extension as a discipline and its contribution towards development.

Unit 2.Communication -Concept, Scope,

- Principlesand importance of communication in Extension work
- Communication barriers and ways to overcome
- Adoption- importance, stages of Adoptionprocess- factors affecting Adoption
- Diffusion- concept, elements and role of Extension worker
- Leadership- Meaning, qualities and roles

Unit 3.Rural Development

- Concept of strategy of rural development
- Rural Development Programmes in India – Integrated child development services
- (ICDS), DRDA- IRDP&TRYSEM, DWACRA, JRY etc.
- Role of voluntary organizations and NGO's in rural development.

Unit 4.Community Development

- Principles and philosophy of Community Development
- Panchyati Raj and Democratic Decentralization
- Functions, structure and three-tier system of administration

Unit 5.Extension Teaching Methods

- Concept and steps in extension teaching
- Classification of methods according to form and use
- Description, advantages and limitations of different extension teaching methods
- Factors affecting selection and use of extension teaching methods

Unit 6.Audio- Visual Aids

- Classification of Audio-visual aids
- Principle of preparation
- Scope, advantages and limitations of various audio visual aids
- Selection and use of teaching aids

Unit 7.Programme Planning

- Importance, objectives and Principle
- Participatory Rural Appraisal- Concept, Importance and Techniques
- Programme development process and execution – methods to finding out the felt and unfelt need ,

Unit 8. Monitoring & Evaluation

- Monitoring- concept, meaning, importance and methods
- Evaluation- concept, importance,
- Principle and methods of evaluating individual/Group performance

PRACTICALS

1. Preparation of Teaching aids- visuals, exhibit and non-projected audio-visual
2. Survey in a village/community to find out need and interests of the people and resource available- human and non- human
3. Group Discussion on identified needs of the village and Planning programme
4. Plan two lessons for the women of the community surveyed as per their need & interest

    - Lecture cum Demonstration of recipe
    - Workshop- teach a craft

5. Preparation of Programme proposal
6. Execute the lessons in the community and evaluate performance
7. Visit to self-help groups
8. Preparation of Resource file on different Extension programme

REFERENCES

1. Dhama, O.P. Bhatnagar, O.P., Second Edition 1985, Education and Communication for Development, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

2. Dubey V.K. andBishnoi Indira, First Edition 2008, Extension Education & Communication, New Age International Publishers, New Delhi.Pg.

3. Supe S.V., Second Edition 1997, An Introduction to Extension Education, Oxford and IBH Publishing Co.Pvt.Ltd, New Delhi.

4. Ray G.L., Seventh Edition, 2008, Extension Communication and management, Kalyani Publishers, New Delhi.Pg. 1-34, 98-164,-338-348.

5. Desai Vasant, First Edition 1991, Fundamentals of Rural Development, Himalaya Publishing Henge. Pg. 1.1-1.27, 4.1-4.66, 14.1-14.32, 15.1-15.29, 16.1-16.30

6. Oakley P. and Garforth C. FAO, 1985, Guide to Extension Training. Pg. 1-20, 41-101.

7. Singh K. Uttam, Nayak A.K., Commonwealth Publishers, 2005, Extension Education.

BIOTECHNOLOGY

ANNEXURE - I
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
(w. e. f. 2015-2016)

DEPARTMENT OF BIOTECHNOLOGY
FIRST YEAR - FIRST SEMESTER SYLLABUS

Paper I - Biomolecules,Cell Biology &Enzymology

Module I : Cell Biology **20Hours**

1.1. Prokaryotic& Eukaryotic cell- Structure and Components.

1.2. Chromosomal Size and shape, Euchromatin, Hetero Chromatin.

1.3.Specialized chromosomes (Polytene and Lamp Brush).

1.4 .Extra chromosomal DNA- Plasmids and Organelle DNA.

1.4. Gene,Genome Organization in Prokaryotes and Eukaryotes.

1.5. Cell Cycle and its significance.

1.6.Cell Division – Mitosis & Meiosis and its significance.

Module II : Carbohydrates and Lipids **20Hours**

1.1. Carbohydrates- Classification.

1.2.Monosachharides , Dissacharides – Structure and properties.

1.3.Polysaccharides - Storage polysaccharide (Starch and glycogen).

1.4.Polysaccharides - Structural polysaccharides (cellulose and chitin) .

1.5. Outline Classification of Lipids- Fatty acids: saturated and unsaturated.

1.6. Structure and function of :

a)Triacylglycerols b) phosphoglycerols c) Sphingolipids d) Sterols (Cholesterol).

Module III : Proteins and Enzymes **20Hours**

2.1.Amino acids - Classification ,structure and properties.

2.2.Primary, secondary, tertiary and quaternary structures of proteins.

2.3.Classification and nomenclature of enzymes.

2.4.Factors affecting enzyme activity.

2.5.Enzyme kinetics(Brief Study)- Michaelis Menten equation & Line Weaver Burk plot.

2.6.Enzyme inhibition- Irreversible & Reversible.

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. Textbook of Medical Biochemistry - By 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 Upadhayay, 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)

VR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL

Re-Accredited by NAAC with Grade "A"
(w. e. f. 2015-2016)

DEPARTMENT OF BIOTECHNOLOGY

FIRST YEAR - SECOND SEMESTER SYLLABUS

Paper II – Microbiology and Genetics

Module-I : Microbiology

20 ours

1.1 .History and Development of Microbiology : Contributions of Louis Pasteur, Robert Koch and Edward Jenner

1.2.Outline classification of living organisms- Haeckal, Whittaker & Carl-Woese Systems.

1.3.Isolation ,Identification and preservation of pure cultures of bacteria.

1.4.Methods of preservation of microbial cultures for industrial application.

1.5 Methods of sterilization- Physical and Chemical methods.

1.6.Microbial Growth Curve.

1.7.Disease causing pathogens and their symptoms(HIV,Typhoid &Bird flu)

Module -II : Classical Genetics 20 Hours

2.1.Mendel's experiments – Factors contributing to success of Mendel's experiments

2.2. Mendel's Laws-Laws of Segregation, Purity of gamates & Independent assortment.

2.3.Deviations of Mendel's Laws- Partial or Incomplete dominance &Co-dominance.

2.5. Types of Epistatic gene interactions: Dominant and Recessive epistasis

2.6. Multiple alleles – Blood groups in man: ABO and Rh.

Module -III : Linkage- Recombination and Sex determination 20 Hours

3.1. Linkage, recombination and crossing over

3.2. Cytological proof of crossing over.

3.3. Recombination frequency and map distance.

3.4. Mechanism of Sex determination in Eukaryotes.

3.5. Genic balance theory – *Drosophila.*

3.6.Sex Linked inheritance.

Books Recommended:

1. Microbiology by M.J. Pelzar, E.S.N. Cfan and N.R. Kreig, McGraw Hill Publ.
2. Introductory Microbiology by J. Heritage, E.G.V. Erans, R.A. Killington, Cambridge Universiy Press.
3. General Microbiology by H.G. Schlegel Cambridge University Pre ss.
4. General Microbiology by Stanier, R.Y, J.L. Ingrahm, M.L. Wheel is & P.R. Painter
5. Microbiology – concepts and Application. John Wiley and Sons, New York, 1988.
6. Genetics - By Gardner (Macmillan Press)
7. An introduction to Genetic Analysis - By Griffith and others – Freeman and Company
8. Fundamentals of Genetics – By B.D. Singh, N. Pratibha, P.H. Rao and P.B. Kavi Kishor
9. Genetics- By B.D. Singh
10. Genetics - By Mohan P. Arora, Gurdarshan and S. Sandhu
11. Theory and Problems in Genetics - By Stransfield

ANNEXURE – III

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

FIRST YEAR BIOTECHNOLOGY

(w.e.f. 2015-2016)

PRACTICAL PAPER – I

Practical Paper

1. Preparation of Molar , Molal and Normal solutions.
2. Preparation of buffers (Acidic, Alkaline and Neutral buffers)
3. Qualitative analysis of sugars.
4. Qualitative analysis of amino acids.
5. Qualitative analysis of lipids.
6. Enzyme assay- Alkaline phosphatase.
7. Estimation of proteins by biuret method.
8. Monohybrid and dihybrid ratio in Drosophila or Maize(models\Problems).
9. Identification of phases of mitosis in onion root tips.
10. Preparation of microbiological media.
11. Isolation of bacteria and fungi.
12. Staining techniques- simple and grams staining.
13. Preservation and maintenance of microbial cultures.
14. Isolation of enzyme and determination of its specific activity.

Biochemistry

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM
FIRST YEAR B.Sc. BIOCHEMISTRY
FIRST SEMESTER
(w.e.f. 2015-2016)

Unit I: Cell biology

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

Unit II : Water

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

Unit III: Carbohydrates

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

Unit IV: Lipids:

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

Unit-V : Amino Acids, Peptides

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

Unit-VI: Proteins

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

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

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CHOICE BASED CREDIT SYSTEM
FIRST YEAR B.Sc. BIOCHEMISTRY
SECOND SEMESTER

Unit-I : Nucleic Acids

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

Unit-II: Porphyrins :

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

Unit-III : Introduction to Enzymes and Enzyme Catalysis

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

Unit-IV : Enzyme Kinetics

Factors affecting the catalysis- substrate concentration, *p*H, temperature. Michaelis - Menten equation for uni-substrate reaction (derivation not necessary), significance of *K*M and Vmax. Enzyme inhibition- irreversible and reversible, types of reversible inhibitions competitive and non-competitive.

Unit-V : Regulation of enzymes:

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

Unit-VI : Applications of Enzymes:

Industrial applications, Clinical applications and Immobilized Enzymes.

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CHOICE BASED CREDIT SYSTEM
FIRST YEAR B.Sc. BIOCHEMISTRY
LIST OF PRACTICALS

1stYear Practical's Paper-I: Qualitative Analysis and Enzymology 90 hrs
(3 hrs/week)

Introduction to Good Laboratory Practice (GLP). Principles of Laboratory Hygiene and Safety.

List of experiments:

1. Preparation of buffers (acidic, neutral and alkaline) and determination of *p*H.
2. Qualitative identification of carbohydrates- glucose, fructose, ribose/xylose, maltose, sucrose, lactose, starch/glycogen.
3. Qualitative identification of amino acids ñ histidine, tyrosine, tryptophan, cysteine, arginine.
4. Qualitative identification of lipids- solubility, saponification, acrolein test, Salkowski test, Lieberman-Burchard test.
5. Titration curve of glycine and determination of *p*K and *p*I values.
6. Determination of Molar Extinction Coeffecient of biomolecules.
7. Absorption maxima of colored substances- *p*-Nitrophenol, Methyl orange.
8. Absorption spectra of protein-BSA, nucleic acids- Calf thymus DNA.
9. Assay of amylase
10. Assay of urease
11. Determination of optimum temperature for amylase.
12. Determination of optimum *p*H for phosphatase.

MATHEMATICS

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2015-16)
FIRST YEAR B.Sc. MATHEMATICS
FIRST SEMESTER
CORE COURSE-I:Ordinary and Partial Differential Equations
(w. e. f. 2015-2016)

UNIT - I: **25hrs**

Differential equations of the first order the first degree: Linear differential equations; Differential equations reducible to linear form; Exact differential equations; Integrating factors; Change of variables; Orthogonal Trajectories.

Differential equations of the first order but not of the first degree: Equations solvable for p; Equations solvable for y; Equations solvable for x: Equations that do not contain x (or y); Equations of the first degree in x and y , Clairaut's Equation.

UNIT -II : **20hrs**

Higher order linear differential equations: Solution of homogeneous linear differential equations of order n with constant coefficients: Solution of the non-homogeneous linear differential equations with constant coefficients by means of polynomial operators.

UNIT -III : **15hrs**

Higher order linear differential equations Method of variation of parameters; Linear differential equations with non-constant coefficients; The Cauchy-Euler equation, Legender's equations.

Partial differential equations-i: Formation of partial differential equations- Equations of first order — Lagrange's Linear Equation

Prescribed Text book: Relevant portions as in 1. A text book of B.Sc. Mathematics Volume-I by V.VenkateswaraRao, N.Krishnamurthy, BVSS Sarma, S.Anjaneya Sastry, Revised edition 2014.

2 M.D Rai Singhania, "Ordinary and Partial Differential Equations", S.Chand& Company, New Delhi. (Sections from 1.1 to 1.10 of chapter 1 and 2.1 to 2.12 of chapter 2)

Reference Book:

1. P.K. Jain and Khaleel Ahmed, "A Text Book of Analytical Geometry of Three Dimensions" , Wiley Eastern Ltd., 1999.
2. Differential Equations with applications and programs- S. Balachandra Rao& HR anuradha

University Press
3. Differential Equations and Their Applications by Zafar Ahsan, published by Prentice-Hall of India Pvt. Ltd. New Delhi-Second edition:
4. I.N.Sneddon: An Introduction to partial differential equations (Mc Graw Hill-2000)

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2015-16)
FIRST YEAR B.Sc. MATHEMATICS
SECOND SEMESTER
CORE COURSE-II: SOLID GEOMETRY
(w. e. f. 2015-2016)

Unit — I : **25hrs**

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

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

Unit — II: **20 hrs**

Sphere: Definition and equation of the sphere; Equation of the sphere through four given points; Plane sections of a sphere; Intersection of two spheres; Equation of a circle; Sphere through a given circle; Intersection of a sphere and a line; Power of a point;- Tangent plane; Plane of contact; Polar plane; Pole of a plane; Conjugate points; Conjugate planes; Angle of intersection of two spheres; Conditions for two spheres to be orthogonal; Radical plane; Coaxial system of spheres; Simplified form of the equation of two spheres.

Unit — III : **15hrs**

Cone: Definitions of a cone; vertex; guiding curve; generators; Quadratic cones with vertex at the origin; Equations of cones with vertex at origin are homogenous; Cone and plane through its vertex, Cone with a base curve; Enveloping cone of a sphere; Right circular cone; Condition that the general equation of the second degree should represent a cone; Condition for the cone to have three mutually perpendicular generators.

Cylinder: Definition of a cylinder, elliptic cylinder, hyperbolic cylinder, parabolic cylinder, cylinder with base guiding curve, Equation of a cylinder.

(Note: Sections 13.1 to 13.14 of chapter 13, Sections 14.1 to 14.7 of chapter 14)

Prescribed Text book: Relevant portions of A text book of B.Sc. Mathematics Volume-I by V.VenkateswaraRao, N.Krishnamurthy, BVSS Sarma, S.Anjaneya Sastry, published by S. Chand & company Ltd. (Revised edition 2014).

Reference Books:

1. Analylical Solid Geometryby Shanti Narayan and P.K.Jain Published by S.Chand & Company Ltd. Seventeenth edition

2. P.K. Jain and Khaleel Ahmed, "A Text Book of Analytical Geometry of Three Dimensions", Wiley Eastern Ltd., 1999.

Computer Science

ANNEXURE - I

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2015-16)
FIRST YEAR B.Sc. COMPUTER SCIENCE
FIRST SEMESTER
Paper I: Computer Fundamentals and Ms Office

No. of hours per week: 04 Max Marks:75

Unit – 1: Fundamentals of Computers

Computer definition – Types of Computer – Logical Organization of a Digital Computer – Memory: Main Memory: RAM, ROM and Cache – Secondary Memory: Magnetic type, Floppy disk, Hard disk, Compact disk – Input devices – Output devices

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Unit - 2: Operating System and Windows Operating system: Definition, functions of an operating system, Types of Operating systems: Brief details of batch processing, Multi Programming, multi tasking, time sharing, real time operating systems - Introduction to DOS, DOS internal commands, DOS External Commands – Introduction to Windows, Desktop, File, Folder, My Computer, My documents, Recycle bin, Internet Explorer, Windows Explorer – Types of Programming Languages.

Unit - 3: MS Word : Ms-Word features – Creating header and footer – formatting - creating tables – Using clipart inserting an image – Macro: Definition – Advantages – Creating, Editing, Deleting and Running a Macro – Creating a Mail Merge document.

Unit – 4 - MS Power Point : Features of MS PowerPoint – Parts of MS PowerPoint window - Creating presentations through Auto Content Wizard, Templates and Blank – Inserting and deleting slides – Slide views – Custom Animation and Transition effects.

Unit – 5 : MS-Excel: Excel features – Introduction to excel functions: (Statistical, Mathematical, Date and Time and String functions) – Creating a charts (Bar, Pie, column) – Formulas – References– Sorting – Filtering – Validation – Pivot tables.

Unit – 6 : MS-Access: Access features - Creating Tables – Creating Forms – Designing Queries – Sorting - Generating reports.

Text Books:

1. Peter Norton, Introduction to Computers, Sixth edition, Tata Mc. Graw Hill (2007).
2. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill (2008)
3. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill (2008).
4. Suresh K. Basandra : Computers Today, Galgotia.

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM (w.e.f. 2015-16)
FIRST YEAR - B.Sc. COMPUTER SCIENCE
SECOND SEMESTER
PAPER -I: Programming in C

No. of hours per week : 04 ***Max Marks :75***

Unit - 1 : C Language fundamentals

Introduction – 'C' Fundamentals : Programming – High Level Languages – compiling programs – Integrated Development Environments – Language Interpreters – Compiling your first program – Running your program – understanding your first program – comments – variables, Data types, and Arithmetic Expressions : working with variables – Understanding Data types and constants – working with Arithmetic Expressions – The Assignment operators – The printf function – The scanf() function.

Unit - 2: Control Structures and Arrays

Decision making : The if statement – the if else construct – Nested if statements – The else if construct – The switch statement – Boolean variables – The conditional operator – program looping : The for statement – Relational operators – Nested for loops – The while statement – The do statement – The break statement – The continue statement. – working with Arrays : Defining an array – Initializing Arrays – character Arrays – The const Qualifier – Multidimensional arrays- variable length Arrays.

Unit - 3 : Functions : Working with Functions : Defining a Function-Arguments and Local variables – Returning Function Results – Function calling – Declaring Return Types and Argument types – Top Down programming – Functions and Arrays – Global variables – Automatic and static variables – Recursive Functions.

Unit – 4 Structures : Working with structures : Defining structure – Functions and structures – Initializing structures – Array of structures- structures containing structures – structures containing Arrays – Structure variants – Character strings : Array of characters – variable length character strings – Escape characters – character strings, structures and arrays - character operations.

Unit – 5 - Pointers : Defining a pointer variable – using pointers in Expressions – pointers and structures (Exclude Linked List) – Pointers and Functions – pointers and Arrays – operations on pointers – pointers and Memory address.

Unit - 6 : Preprocessor Directives and Files : The preprocessor : The # define statement – The # # operator – The #include statement – conditional compilation. More on Data Types : Enumerated Data Types – The typedef statement – Data Type conversions - Input and Output Operations in "C" : Character I/O – formatted I/O – Input and Output Operations with Files – Special functions for working with Files.

Text Books:

1. Stephen G. Kochan, Programming in C, Pearson Education.
2. Programming in C by Balagurusamy, Tata Mc Graw Hill

KVR GOVT. COLLEGE FOR WOMEN (A), KURNOOL

For all I B.A./B.Sc./B.Com. programs with no computer course as core subject

(Revised syllabus W.E.F.2015- 2016)

PAPER –I: INTRODUCTION TO COMPUTERS.

SEMESTER – I SYLLABUS

Unit-1 : Exploring Computers

Exploring Computers and their uses: Overview: Computers in our world, The computer defined, Computers for individual users, Computers for organizations, Computers in society, Why are computers so important. Looking inside the computer system:

Unit-2 : Peripheral devices and hardware

Overview: Detecting the ultimate machine, The parts of a computer system, The information processing cycle, Essential computer hardware: processing devices, memory devices, Input and output devices, Storage devices, System software, Application software, Computer data, Computer users. Using the keyboard and mouse:

Overview: The keyboard and mouse, The keyboard, How the computer accepts input from the keyboard, The mouse, Variants of the mouse, Ergonomics and input devices.

Inputting data in other ways: Overview: Options for every need and preference, Devices for hand, optical input devices, Audio visual input devices.

Printing : Overview: putting digital content in your hands, Commonly used printers, High-quality printers, Thermal-wax printers, Dye-sublimation printers, Plotters.

Unit-3 : Storage Devices and Operating System Basics

Transforming data into information: Overview: The difference between data and information, How computers represent data, How computers process data, Machine cycles, Memory, Factors effecting processing speed, The computer's internal clock, The Bus, Cache memory. Types of storage devices: Overview: An ever-growing need, Categorizing storage devices, Magnetic storage devices—How data is stored on a disk, How data is organized on a magnetic disk, How the operating system finds data on a disk, Diskettes, hard disks, Removable high-capacity magnetic disks, Tape drivers, Optical storage devices, Solid-state storage devices, Smart cards, Solid-state disks.

Unit-4 : Operating system basics

Overview: The purpose of operating systems, Types of operating systems, Providing a user interface, Running programs, Managing hardware, Enhancing an OS utility software. Networking Basics: Overview: Sharing data anywhere, anytime, The uses of a network, Common types of networks, Hybrid networks, How networks are structured, Network topologies and protocols, Network media, Network hardware.

Prescribed Books :

1. Peter Norton, Introduction to Computers, sixth Edition, Tata McGraw Hill (2007)
(Chapters 1, 2, 3, 4, 5, 6,7,10,11,12)
2. Ran Mansfield, working in Microsoft Office, Tata McGraw Hill 2008).
(Chapters : 4 to 9, 11, 12, 24, 25, 28)

Reference Books :

1. Michael Miller, Absolute Beginner's guide to computer Basics, Fourth Edition, Pearson Education (2007).
2. Deborah Morley, Charles S.Parker, understanding computers today and tomorrow, 11th edition, Thomson(2007).
3. Ed Bott, woody Leonhard, using Microsoft Office 2007, Pearson Education (2007).

KVR GOVT. COLLEGE FOR WOMEN (A), KURNOOL

For all I B.A./B.Sc./B.Com. programs with no computer course as core subject
(Revised syllabus W.E.F.2015- 2016)
PAPER –I: INTRODUCTION TO COMPUTERS.
SEMESTER – II SYLLABUS

Unit-1 : MS-Word

Word Basics : Starting word, Creating a new document, Opening preexisting document, The parts of a word window, Typing text, Selecting text, Deleting text, Undo, Redo, Repeat, Inserting text, Replacing text, Formatting text, Cut , Copy, Paste – Formatting Text and Documents : Auto format, Line spacing, Margins, Borders and Shading. Headers and Footers : Definition of headers and footers, creating basic headers and footers, creating different headers and footers for odd and even pages.

Unit-2 : Tables

Creating a simple table, Creating a table using the table menu, Entering and editing text in a table, selecting in table, adding rows, changing row heights, Deleting rows, Inserting columns, Deleting columns, changing column width. Graphics : Importing graphics, Clipart, Insert picture, Clip Art Gallery, using word's drawing features, drawing objects, text in drawing.

Unit-3: Templates

Template types, using templates, exploring templates, modifying templates.
Macros : Macro, Record in macros, editing macros, running a macro.
Mail Merge : Mail Merge concept, Main document, data sources, merging data source and main document, Overview of word menu options word basic tool bar.

Unit-4: Ms-Power Point

Power Point : Basics, Terminology, Getting started, Views
Creating Presentations : Using auto content wizard, Using blank presentation option, Using design template option, Adding slides, Deleting a slide, Importing Images from the outside world, Drawing in power point, Transition and build effects, Deleting a slide, Numbering a slide, Saving presentation, Closing presentation, Printing presentation elements.

Prescribed Books :

1. Peter Norton, Introduction to Computers, sixth Edition, Tata McGraw Hill (2007) (Chapters 1,2,3,4,5,6,7,10,11,12)
2. Ran Mansfield, working in Microsoft Office, Tata McGraw Hill (2008). (Chapters : 4 to 9, 11, 12, 24, 25, 28)

Reference Books :

1. Michael Miller, Absolute Beginner's guide to computer Basics, Fourth Edition, Pearson Education (2007).
2. Deborah Morley, Charles S.Parker, understanding computers today and tomorrow, 11th edition, Thomson (2007).

3. Ed Bott, woody Leonhard, using Microsoft Office 2007, Pearson Education (2007).

LIST OF PRACTICALS

KVR GOVT. COLLEGE (AUTONOMOUS): : KURNOOL
I B.Sc COMPUTER SCIENCE NEW SYLLABUS
(Revised syllabus W.E.F.2015- 2016)

PAPER –I: Computer Fundamentals and Office Automation

PRACTICAL PAPER: Office Automation & C Programming

MS-WORD

1. Design a visiting card for Managing Director of a Company with following specification
   i. Size of visiting card is 3.5" x 2"
   ii. Name of a company with big font using Water Mark
   iii. Phone number, fax number and e-mail address with appropriate symbols
   iv. Office and residence address separated by line.
2. Create a letter head of a company
   i. Name of Company on the top of the page with big font and good style
   ii. Phone numbers, fax numbers, e-mail address with appropriate symbols
   iii. Main products manufactured to be described at the bottom
   iv. Slogans if any should be specified in bold at the bottom
3. Creation of your Bio-Data: consisting Name, email-id, Contact Address, Carrier Objective, Educational qualifications, social activities, achievements.

MS-POWERPOINT

1. Make a Power point presentation on your strengths, weaknesses, hobbies, factors that waste your time.
2. Make a Power point presentation on any Current affair (Not less than 8 slides)
3. Make a Power point presentation to represent your College profile.
4. Make a Power point presentation of all the details of the books that you had studied in B.Sc. First Year.

MS-ACCESS

1. 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
2. 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.

3. 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 and generate the following reports:

REPORT1:
EMP-CODE, EMP-NAME, BASIC-PAY, DA, HRA, GROSS-SALARY.
REPORT2:
EMP-CODE, EMP-NAME, AGE, GENDER, GROSS-SALARY.

MS-EXCEL

1. Create an electronic spreadsheet in which you enter the following decimal numbers and convert into Octal, Hexadecimal and Binary numbers Vice versa.
Decimal Numbers: 35,68,95,165,225,355,375,465
Binary Numbers: 101,1101,111011,10001,110011001,111011111.

2. The ABC Company shows the sales of different products for 5 years. Create column chart, 3D-column and Bar chart for the following data
YEAR PRODUCT-1 PRODUCT-2 PRODUCT-3 PRODUCT-4

YEAR	**PRODUCT-1**	**PRODUCT-2**	**PRODUCT-3**	**PRODUCT-4**
2010	1000	800	900	1000
2011	800	80	500	900
2012	1200	190	400	800
2013	400	200	300	1000
2014	1800	400	400	1200

3.Create a suitable examination data base and find the sum of the marks(total) of each student and respective class secured by the student rules:
Pass if marks in each subject >=35
Distinction if average>=75
First class if average>=60 but <75
Second class if average>=50 but <60
Third class if average>=35 but <50
Fail if marks in any subject is <35
Display average marks of the class, subject wise and pass percentage.

PRACTICAL PAPER : C-PROGRAMMING LAB CYCLE

1. Program for
   i. Sum of factors of a number
   ii. Sum of digits of a number
2. Program to check whether a given number is
   i. Prime number or not
   ii. Perfect number or not

iii. Armstrong number or not

3. Program using recursion for
   i. Factorial of a given number
   ii. Fibonacci series
4. Program for roots of a quadratic equation
5. Program using functions
   i. Without return value
   ii. With return value
   iii. With parameters

   iv. Without parameters

6. Program to find largest/smallest of n numbers by using arrays
7. Program for sorting an array
8. Program for matrix addition & subtraction
9. Program for matrix multiplication
10. Program for transpose of a given matrix
11. Program for (with and without string functions)
    i. Comparison of two strings
    ii. Concatenation of two strings
    iii. Length of a string
12. Program to process student information. Student structure consists Sno, Sname, Marks in 6 subjects, Total, average. Calculate total and average of n students and assign grade with following criteria.
    Grade A : All pass and avg >=75
    Grade B: All pass and avg>=60 and avg<75
    Grade C: All pass and avg>=50 and avg<60
    Grade D: All pass and avg>=40 and avg<50
    Grade E: If fails in one or more subjects.
13. Program for (i) Nesting of Structure (ii) Passing structures to functions.
14. Program to demonstrate (i) Unions (ii) enumerated data types.
15. Program for sum of diagonal elements of a square matrix?
16. Program to access (i) array elements (ii) Structure elements using pointers.
17. Program for sorting strings using pointers.
18. Program to count number of (i) words (ii) lines (iii) Special Characters in a given text.
19. Program to create a file to store and retrieve strings using fputs() and fgets().
20. Program to create a file to store and update employee records. The employee record consists of ENO, ENAME, DEPTNO, DEPTNAME, BASICSALARY, HRA, DA, DEDUCTIONS, TOTALSALARY and NETSALARY.
21. Program to evaluate following expressions. 1 + ½ + 1/3 + ¼ + …….. + 1/n
22. Program to find Square root of a given no.
23. Program to create table of Triangular Numbers.
24. Program for reversing digits of a no.
25. Program for Base Conversion.

LIST OF PRACTICALS

KVR GOVT. COLLEGE (AUTONOMOUS): : KURNOOL
I B.A. CA/CE & I B.Com.C.A. NEW SYLLABUS
(Revised syllabus W.E.F.2015- 2016)

FUNDAMENTALS OF COMPUTERS & OFFICE AUTOMATION TOOLS

PRACTICAL PAPER**: Office Automation Tools**
MS-WORD
1. Design a visiting card for Managing Director of a Company with following specification
   i. Size of visiting card is 3.5" x 2".
   ii. Name of a company with big font using Water Mark.
   iii. Phone number, fax number and e-mail address with appropriate symbols.
   iv. Office and residence address separated by line.
2. Create a letter head of a company
   i. Name of Company on the top of the page with big font and good style.
   ii. Phone numbers, fax numbers, e-mail address with appropriate symbols.
   iii. Main products manufactured to be described at the bottom.
   iv. Slogans if any should be specified in bold at the bottom.
3. Creation of your Bio-Data: consisting Name, email-id, Contact Address, Carrier Objective, Educational qualifications, social activities, achievements.

MS-POWERPOINT
   1. Make a Power point presentation on your strengths, weaknesses, hobbies, factors that waste your time.
   2. Make a Power point presentation on any Current affair (Not less than 8 slides)
   3. Make a Power point presentation to represent your College profile.
   4. Make a Power point presentation of all the details of the books that you had studied in B.A/B.Com. First Year.

MS-ACCESS
1. 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.
2. 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.

3. 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.
MS-EXCEL
1. Create an electronic spreadsheet in which you enter the following decimal numbers and convert into Octal, Hexadecimal and Binary numbers Vice versa.
Decimal Numbers: 35, 68, 95,165,225, 355,375,465
Binary Numbers: 101,1101,111011,10001,110011001,111011111.

2. The ABC Company shows the sales of different products for 5 years. Create column chart, 3D-column and Bar chart for the following data.
YEAR PRODUCT-1 PRODUCT-2 PRODUCT-3 PRODUCT-4

YEAR	**PRODUCT-1**	**PRODUCT-2**	**PRODUCT-3**	**PRODUCT-4**
2010	1000	800	900	1000
2011	800	80	500	900
2012	1200	190	400	800
2013	400	200	300	1000
2014	1800	400	400	1200

3. Create a suitable examination data base and find the sum of the marks (total) of each student and respective class secured by the student rules:
Pass if marks in each subject >=35.
Distinction if average>=75.
First class if average>=60 but <75.
Second class if average>=50 but <60.
Third class if average>=35 but <50.
Fail if marks in any subject is <35.
Display average marks of the class, subject wise and pass percentage.
Excel:
1. Create 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.

2. 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.

3. 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/-

4. Create a chart using cricket source and cricketers name and the number of runs using column chart and pie chart.

M.Sc. Botany

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; Anthoceratophyta 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 ptreidophytes and salient features of representatives: Psilotopsida (Psilotum), Lycopsida (Lycopodium), Equisitopsida (Equisetum), Marratiopsida (Angiopteris) and Polypodoppsida (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 Bennititales.

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. Bryophte 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

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; monophylly and polyphylly. 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 , disteibution and diversity of the following groups (based on APG –III); ANITA Grade; Magnolias (Magnoliales- Annonaceae); Monocots (Asparagales- Orchidaceae); Commelinids (Poales- Poaceae); Fabids (Fabales- Fabaceae, Malphigiales- 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.
2. Gamble & Fischer1915-35. 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. Elseiver & 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.

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. Anamalous 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- secretary 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 ruminate 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, psedogamy, 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-Veriag ,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.

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 Solkowski 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 WeselyPub 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 .
11. Wilmer, C.M. & M. Fricker.1996. Stomata. 2nd Ed, Chapman Hall.

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 mychorrhizae; 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, powdrey 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 selction, 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 symptomology 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 Treaatise. 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. Prinston 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.

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. Seperation and identification of aminoacids by paper chromatography
3. Seperation and identification of sugars by TLC
4. Seperation and identification of Lipids by TLC
5. Seperation of aminoacids by Ion –exchange chromatography
6. Seperation of proteins by PAGE
7. Seperation 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 Willey, 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.

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

Buchnan, Gruissen & Jones. 2001. Biochemistry and Molecular Biology of Plants.
Dennis, D.T., D.B. Layzell, D.D. Lefebrye & D. Turpin. 1997. Plant Metabolism. 2nd ed. Addison Wesely Pub. Co. New York.
Dey and Horborne. 1998. Plant Biochemistry. Academic Press.
Heldt, H.W. 1997. Plant Biochemistry and Molecular Biology. OUP.
Horton, HR, MoranLA, Ochs RS et al., 2001. Principles of Biochemistry, III edn. Prentice Hall.
Lehninger, A.L. 2001. Biochemistry. Kalyani Publishers. Ludhiana.

Mathews CK, Van Holde KE and Ahem KG. 2000. Biochemistry III edn. Sanfransico. Benjamin Cummings.
Thomas C. Moore. 1992. Biochemistry and Physiology of Plant Hormones. II Eds. Narosa Publishers.
Wilkins, M.B. (ed) 1987. Advanced Plant Physiology. ELBS & Longman. Essex., England.

PAPER 204: OPEN ELECTIVE –I: PLANTS AND HUMAN WELFARE

UNIT I : PLANTS AND ENVIRONMENTAL VALUES

Plants-Ecosysytem services. Direct, Indirect and optional (future possibilities of usage) services. Human ciivlization 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 originappplication 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, Pharmocognosy-Principles, Identification of different constituents. Classification of Drugs . Analytical methods- drug adulteration and evaluation. Phytopharmocology 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, Arabidiopsis 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. Subbramaniyam 2000. Economic Botany of Crop Plants. Asiatech Publishers Inc.
8. Trease, GE. And WC. Evans. 2002. Pharmocognosy. Saunders. New York.

M.Sc. Chemistry

ANNEXURE - I

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM
FIRST YEAR M.Sc. CHEMISTRY
M Sc., ORGANIC CHEMISTRY (OC)/NATURAL PRODUCTS (NP)
I SEMESTER SYLLABUS
(EFFECTIVE FROM THE ACADEMIC YEAR 2015-2016)
CHEM-OC/NP: 101: PAPER-I INORGANIC CHEMISTRY –I

UNIT-I : METAL LIGAND BONDING AND MAGNETIC BEHAVIOUR OF COMPLEXES
UNIT-II : METAL LIGAND EQUILIBRIA IN SOLUTION AND THEORY OF HSAB
UNIT-III : METAL CARBONYL AND METAL NITROSYL COMPLEXES
UNIT-IV : POLYACIDS AND ORGANOMETALLIC CHEMISTRY

UNIT-I: METAL – LIGAND BONDING AND MAGNETIC BEHAVIOUR OF COMPLEXES

(i)Metal –Ligand Bonding: Crystal Field Theory (CFT) for bonding in transition metal complexes, crystal field splitting of'd' – orbitals in octahedral, tetrahedral, tetragonal and square planar fields. Crystal Field Stabilization Energy (CFSE) and its calculation in six and four coordinated complexes, Spectrochemical series with reference to ligands and metal ions. Factors affecting the magnitude of Δo in octahedral complexes, Jahn- Teller effect and its consequences. Shortcomings of CFT; Covalency: Evidence for covalency, Nephelauxetic effect; Molecular orbital theory: Concept of Ligand Group Orbitals (LGOs), MO diagrams for octahedral, tetrahedral and square planar complexes, MO treatment of π-Bonds.

(ii)Magnetic Behaviour of Complexes: Types of magnetic behavior, Temparature independent paramagnetism. Magnetic susceptibility and its determination by Gouy's and Faraday's methods. Calculation of Magnetic moment from magnetic susceptibility, spin-only formula, orbital contribution to magnetic moment (Oh and Td Complexes)

UNIT-II: METAL –LIGAND EQUILIBRIA IN SOLUTION AND THEORY OF HSAB

(i)Metal-ligand equilibria in solution

Stepwise and overall formation constants and their interrelationship, Trends in stepwise formation constants, factors affecting the stability of metal complexes, Chelate effect, Determination of binary formation constants by pH-metry and spectrophotometric methods.

(ii)Theory of HSAB

Hard and soft acids and bases, Classification, Acid-Base strength and hardness, Symbiosis, Electronegitivity and hardness, Application of HSAB: Biological functions and toxicology of metals, and medicinal applications.

UNIT-III: METAL CARBONYL AND NITROSYL COMPLEXES

Nature of π bonding, classification of π ligands, effect of π bonding on the ligand field splitting energy of octahedral complexes. Π-bonding and spectrochemical series, π-donor ligands and π-acceptor ligands

Metal carbonyls: Synthesis of metal carbonyls, structures of metal carbonyls of the types M(CO)n (M=Cr, Fe, Ni; n= 4-6), $M_2(CO)n$ (M=Co, Fe, Mn; n=8-10), $M_3(CO)_{12}$ (M=Fe, Ru and Os) $M_4(CO)_{12}$ (M=Co, Rh, and Ir). IR spectra of metal carbonyls- (i) Detection of bridging CO ligand, (ii) Determination of molecular symmetry and (iii) Determination of bond angles in metal catbonyls. Synergistic effect, EAN and 18- electron rules as applied to metal carbonyls, Electron counting methods- (i) Oxidation State method and (ii) Neutral Atom method, Appilcations of Metal Carbonyls

Metal Nitrosyls : Synthesis of metal nitrosyls, Bonding , Electron donation by nitric oxide, Principles of stoichiometry, Models for NO bonding – (i) Covalent model and (ii) Ionic models, Structures of Metal nitrosyls (1) $[IrCl(PPh_3)_2 (CO)(NO)]^+$, (2) $[RuCl(PPh_3)_2(NO)_2)^+$, (3)$[(Cp)CrCl(NO)_2]^+$ (4)$(Cp)_2 Cr_2 Cl(NO)_4]^+$, (5) $[Co(diars)_2 (NO)]^{2+}$ and (6) $[Co(diars)_2 (NO)(SCN)]^+$, Detection of bridging NO ligand, Stereochemical control of valency in cobalt complexes, Applications of metal nitrosyls.

UNIT-IV: POLYACIDS AND ORGANOMETALLIC CHEMISTRY

Polyacids: Introduction to polyacids- Types of polyacids- Isopolyacdis, Isopoly molybdates, Isopoly tungstates, Isopoly vanadates, Structures of Polyacids $]Mo_7O_{24}]^{6-}$, $(V_{10}O_{28})^{6-}$ and $W_4O_{16}]^{8-}$, Heteropolyacids- properties of heteropolyacids and salts, structures of heteropolyacids and theories , Mialali copause and Roscnneium theories , Pauling's theory and keggin's theory, applications of polyacids.

Organometalic Chemistry: Introduction to 18-electron rule, Classification based on hepticity and polarity of M-C bond, nomenclature of organometallic compounds, Thermal stability-thermochromism, Preparation, properties of methyl and phenyl organo magnesium, organo boron, organo aluminium and organo silicon compounds.

Reference Books

1. Inorganic Chemistry by J. E. Huheey,. E.A. Keiter and R.A. Keiter, 4th edition, Harper Collins, 1993.
2. Advanced Inorganic Chemistry by F.A. Cotton, G. Wilkinson, C.A. Murillo and M. Bochmann, 6th edition, Wiley Interscience N.Y, 1999.
3. Coordination Chemistry by F. Basalo and R. Johnson (WA Benjami Inc)., 1964.
4. Inorganic Chemistry, Principles and Applications by I.S. Butler and I.F. Harper, Benjami Cummings, Redwood City, CA, 1989.
5. Chemistry of Compelx equilibria , M.T.Beck, Von nostrand Reinhold,London,1990.

6. Metal Complexes in aqueous solutions, A.E.Martell and R.D. Hancock, Plenum Press New York., 1996.
7. Mechanism of Inorganic Reactions by F.Basalo and R.G.Pearson, 2nd Edn.,
8. Concise Inorganic Chemistry by J. D. Lee, 4th edition, ELBS, 1994.
9. Concise Inorganic chemistry by J.D. Lee, 5th edition, Blackwell Science Ltd. 1996.
10. Inorganic Chemistry by J.E.Huheey,E.A.Keiter and R.A.Keiter, 4th edition, Addision Wesley Publishing Company,New York,2000.
11. Chemistry of Elements by N. N. Greenwood, Pergamon press.
12. Organometallic chemistry by R.C Melhotra and A.Singh.
13. Inorganic Chemistry: G.Wulfsberg (university Science Books)
14. Modarn Inorganic Chemistry W.L.Jolly, 2nd Ed. (McGraw-Hill).
15. Coordination Compounds. S.F.Kettle 9(supringer).
16. Magnetochemistry , R.L. Carlin(Supringer-Verlag NewYork)
17. Elements of magneto chemistry R.L. Dutta and A.Syamal.2nd Ed.(AffiliatedEnst-West Press pvtLtd
18. Introdation to Ligand Fields B.N. Higgis (Krieger pub Co)

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CHOICE BASED CREDIT SYSTEM
FIRST YEAR M.Sc. CHEMISTRY
M Sc., ORGANIC CHEMISTRY (OC)/NATURAL PRODUCTS (NP)
I SEMESTER SYLLABUS
(EFFECTIVE FROM THE ACADEMIC YEAR 2015-2016)
CHEM-OC/NP: 102: PAPER-II ORGANIC CHEMISTRY –I

UNIT - 1: STEREOCHEMISTRY

UNIT – 2: DETERMINATION OF REACTION MECHANISM

UNIT- 3: REACTION MECHANISM –I

UNIT- 4: INTRODUCTION TO REACTIVE INTERMEDIATES AND MOLECULAR REARRANGEMENTS

UNIT - 1: STEREOCHEMISTRY 15 Hours

Molecular representations of organic molecules – Wedge, Fischer, Newman and Saw-horse formulae, their description and inter-conservation. Stereoisomerism – Definition and classification.

Molecular symmetry and chirality in organic molecules: Symmetry operations, symmetry elements (C_n, C_i and S_n) – Point group classification. Chiral point groups classifications of stereoisomers based on symmetry and energy considerations – Dissymmetric and asymmetric molecules.

Molecules with a single chiral centre: Chiral manifestations (absence of reflection symmetry, exhibiting optical activity and specific rotations etc). Molecules with a tetra-co-ordinate chiral centre (quaternary ammonium salts, N-oxides, silane derivatives, phosphines and sulfones). Molecules with a tri coordinate chiral centre (tertiary amines, carbanions, phosphines and sylfoxides). Concept of dynamic enantiomerism.

UNIT – II: DETERMINATION OF REACTION MECHANISM 15 Hours

A. Energy considerations: a). Kinetics b).Reactivity and rates of reactions c).Catalysis d).Competitive reactions: thermodynamic and kinetic control e).Hammett Equation f).Curtin - Hammett Principle g).Taft Equation

B. Methods of determination of reaction mechanisms: a).Product analysis b). Determination of the presence of intermediates c). Cross over experiments d). Isotopic label ling e). Stereo chemical evidence and f). Kinetic evidence

(For this unit refer Trinity Publication revised edition-2015 "**Reaction mechanism in organic chemistry by S.M.Mukherji and S.P.Singh")**

UNIT – III: REACTION MECHANISM – I: 15 Hours

A brief review of Neucleophilic Substitution Reactions at saturated carbons. S_N^1, S_N^2 and S_N^i- mechanisms and stereochemistry – Factors effecting the rate of S_N^1 and S_N^2 reactions such as substrate structure, nature of leaving group, nucleophile and the solvent.

Neighbouring group participation : Definition, criteria of determining neighbouring group participation (enhanced reaction rates, retention of configuration, isolation of cyclic intermediates and isotope labeling) – Examples of neighbouring group participation involving halogens, oxygen, sulphur, nitrogen, aryl, cycloalkyl groups σ - and π - bonds. Introduction to non classical carbonium ions.

Aromatic nucleophilic substitutions: S_N^1 (Ar), S_N^2 (Ar) and benzyne mechanisms. Evidence for the structure of benzyne. Ambient nucleophiiles – Definition & types. SET – Mechanism.

Determination of reaction mechanism, Energy profiles of addition and elimination reactions, transition states, product isolation and structure of intermediate, use of isotopes, chemical trapping, cross over experiments, Use of IR and NMR in the investigation of reaction mechanism.

UNIT- IV: INTRODUCTION TO REACTIVE INTERMEDIATES AND MOLECULAR REARRANGEMENTS: 15 Hours

Reactive intermediates- Generation, Structure and stability of (i) carbocations, (ii) carbanions, (iii) carbenes, (iv) nitrenes and (v) free radicals.

Molecular rearrangements: Definition & Classification, Molecular rearrangements involving (i) electron deficient carbon Wagner-Meerwein, Pinaco-Pinacolone and Wolf rearrangements. (ii) Electon deficient nitrogen; Hoffman, Lossen, Curtis, Schimdt and Beckmann rearrangements. (iii) Electron deficient oxygen Baeyer-villeger oxidation.

Base catalyzed rearrangements, Benzilic acid rearrangement, Favorskii rearrangement, Trans annular and Sommlett-Hauser rearrangement.

Reference Books

1. Stereochemistry of carbon compounds by Ernest L. Eliel
2. Stereochemistry by V.M. Potapov
3. Stereochemistry of organic compounds – Principles and applications by D. Nasipuri

4. Stereochemistry, Conformation and Mechanism by P.S. Kalsi
5. The third dimension in organic Chemistry by Alan Bassindale
6. Organic Chemistry by T.J. Solmons
7. Organic Chemistry by Robert T. Morrison and Robeertr N. Boyd
8. A guide book to mechanism in Organic Chemistry by Peter Sykes
9. Advanced Organic Chemistry: Reactions, Mechanism & Structure by Jerry March.
10. Reactive Intermediates by Issac
11. Mechanism and structure in Organic Chemistry by S. Mukherjee
12. Name Reactions by Jie

ANNEXURE - I

KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS), KURNOOL
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CHOICE BASED CREDIT SYSTEM
FIRST YEAR M.Sc. CHEMISTRY
M Sc., ORGANIC CHEMISTRY (OC)/NATURAL PRODUCTS (NP)
I SEMESTER SYLLABUS
(EFFECTIVE FROM THE ACADEMIC YEAR 2013-2014)
CHEM-OC/NP: 103: PAPER-III PHYSICAL CHEMISTRY –I

UNIT - I: THERMODYNAMICS- I

UNIT- II: ELECTOCHEMISTRY- 1

UNIT- III: QUANTUM CHEMISTRY – I

UNIT -IV: CHEMICAL KINETICS - I

UNIT - I: THERMODYNAMICS – I : 15 Hours

A. Brief review of Thermodynamic concepts – Enthalpy, entropy, free energy. Concept of Entropy – Entropy as a state function – Entropy change in reversible process and irreversible process – Temperature – Entropy diagrams – Entropy change and Phase change – Entropy of mixing – Entropy and disorder.

B.Free energy and Work function: Concept of free energy – work function and free energy relationships – The Gibb's Helmotz equations – Conditions of equilibrium – Maxwell relationships.

C.The third law of Thermodynamics – Entropy at absolute zero, experimental determination of entropy – Entropies of gases – Tests of the third law of thermodynamics.

UNIT – II: ELECTROCHEMISTRY – I : 15 Hours

A. Reversible cells – Chemical cells and concentration cells – Types of reversible electrodes – Electrode potentials. Reactions in reversible cells – Nernst equation – thermodynamic and kinetic derivation – Concentration cells with and without transference. Liquid junction potential and its determination.

B.Potentiometric titrations – Determination of pH, Solubility product from EMF measurements.

C.Theory of electrolytic conductance – Debye - Huckel Onsager equation and its verification – Wein effect. Conductometric titrations, Determination of solubility of a sparingly soluble salt.

UNIT – III: QUANTUM CHEMISTRY – I : 15 Hours

A.A quick review of the following: Black body radiation – Planck's concept of quantiztion (derivation not required). Photoelectric effect. Hydrogen spectrum. Bohr's theory and its failures – Wave particle duality and uncertainity principle – Significance of these microscopic entities Emergence of Quantum mechanics.

B.Operators: Operators algebra – Commutation of operators, linear operators. Complex functions. Hamlitian operators. Operators ∇ and ∇^2 .Eigen functions and Eigen values. Degeneracy. Linear

combination of Eigen functions of an operator, well behaved functions. Normalized and orthogonal functions.

C.Postulates of Quantum mechanics. Physical interpretation of wave function. Observables and operators. Measuability of properties. Average value of observable. The time dependent and time independent Schrodinger equation.

UNIT – IV: CHEMICAL KINETICS – I : 15 Hours

A.Theories of reaction rates – Collision theory, steric factor. Theory of Absolute Reaction Rates – Reaction coordinate, activated complex and the transition state. Thermodynamic formulation of reaction rates.

B.Unimolecular reactions – Lindemann's theory – Brief explanation of HKRR and Slater's treatments. Termolecular reactions. Complex reactions – Rate expressions for opposing, parallel and consecutive reaction (all first order type).

C.Chain reactions: General Characteristics, Steady State treatment $H_2 – I_2$, $H_2 – Br_2$, $H_2 – Cl_2$ reactions. Comparison of hydrogen halogen reactions. Rate expressions for chain reactions.

References:

1. Thermodynamics for Chemists by S. Glasstone.
2. Atkin's Physical Chemistry by Peter Atkins and Julio de paula.
3. Introduction to Electrochemistry by S. Glasstone.
4. Quantum Chemistry by Ira N. Levine.
5. Introduction to Quantum Chemistry by A.K. Chanda.
6. Chemical Kinetics by K.J. Laidler.
7. Atomic Structure and chemical bond by Manas Chandra.

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FIRST YEAR M.Sc. CHEMISTRY
M Sc., ORGANIC CHEMISTRY (OC)/NATURAL PRODUCTS (NP)
I SEMESTER SYLLABUS
(EFFECTIVE FROM THE ACADEMIC YEAR 2013-2014)
CHEM-OC/NP: 104: PAPER-IV CHEMICAL GROUP THEORY AND SPECTROSCOPY

UNIT: I: CHEMICAL GROUP THEORY
UNIT: II: FUNDAMENTALS OF SPECTROSCOPY & MICROWAVE SPECTROSCOPY

UNIT: III: ELECTRON SPIN RESONANCE SPECTROSCOPY

UNIT: IV: MOSSBAUER SPECTROSCOPY

UNIT- I: CHEMICAL GROUP THEORY: 15Hours

Symmetry elements and symmetry operations; Point groups; Mathematically requirements for a point group; Schoenflies notations of point groups; Systematic assignment of molecules to point groups; Group generating elements; sub-groups; Classes; Matrix representation of C_{2V}, C_{3V} and C_{4V} point groups; Reducible and Incredible representations (IR), Character of a matrix, character of a matrix, characters of conjugate matrices; Character of a representation; Properties of Irreducible representation; construction of Character tables(C_{2V} and C_{3V} point groups); Mullikan symbolism rules for IR's; The standard reduction formula: The direct product; Symmetry of normal modes of molecules (C_{2V}).

UNIT- II: FUNDAMENTALS OF SPECTROSCOPY & MICROWAVE

SPECTROSCOPY: 15Hours:

Electromagnetic radiation – Interaction of electromagnetic radiation with matter- Absorption and Emission. Quantization of energy- Regions of the electromagnetic spectrum and the mode of interactions with molecules. Representation of spectra. Basic components of a spectrometer. Signal to noise ratio. Intensity and width of spectral lines.

MICROWAVE SPECTROSCOPY: Classification of rotating molecules- Diatomic molecules- rigid rotor mode. Intensity of spectral lines. Effect of isotopic substitution on transition frequencies, intensities, non rigid rotor, polyatomic molecules- Spectra of linear and symmetric top molecules. Selection rules. Techniques and Instrumentation. Stark Effect, Nuclear and

Electron spin interactions and effect of External field. Applications: calculation of bond lengths in diatomic molecule

UNIT- III: ELECTRON SPIN RESONANCE SPECTROSCOPY: 15 Hours

Basic Principles, Theory of ESR, Comparison of NMR & ESR. Instrumentaion, Factors affecting the 'g' value, determination of 'g' value. Isotropic and Anisotropic constants. Splitting hyper fine splitting coupling constants. Line width, Zero field splitting and Kramer degeneracy. Crystal field splitting, Crystal field effects.

Applications:- Detection of free radicals; ESR spectra of (a) Methyl radical ($CH_3^{\cdot}$), (b) Benzene anion ($C_6H_6^{-}$) (c) Isoquinine (d) $[Cu(H_2O)_6]^{+2}$ (e) $[Fe(CN)_5NO]^{-3}$ (f) Heme proteins, Kinetic studies, Detection of oxidation states of the metal. ELDOR, ENDOR, Spin labeling ESR Spectroscopy.

UNIT-IV: MOSSBAUER SPECTROSCOPY: 15 Hours

Principles of MÖssbauer spectroscopy, Resonance line shifts or isomer shift, Quadrupole interactions and Magnetic interactions. Instrumentation, Lamb MÖssbauer factor, presentation of spectrum, Selection rules. Applications: Low spin, high spin Fe(II) and Fe(III) complexes, diamagnetic and covalent compounds, biological systems, Investigation of dithiocarbamate and Ruthenium complexes, structure determination of $Fe_3(CO)_{12,}$ Nature of chemical bond, detection of oxidation state, Applications Mossbauer spectroscopy to Tin and Iron compounds.

References:

1. Molecular Structure and Spectroscopy- G. Aruldhas, Prentice Hall of India Pvt. Ltd,
2. New Delhi, 2001. Modern Spectroscopy- J.M. Hoilas, John Willey
3. Introduction to Molecular Spectroscopy- G.M. Barrow, Mc Graw Hill.
4. Electron Spin Resonance Elementary Theory and Practical Applications- John E. Wertz and James R. Bolton, Chapman and Hall, 1986.
5. Spectroscopic Identification of organic compounds – Silverstein, Basseler and Morril.
6. Organic Spectroscopy- William Kemp.
7. Fundamentals of Molecular Spectroscopy- C.N.Banwell and E.A. Mc cash 4^{th} Edition, Tata Mc Graw Hill Publishing Co., Ltd. 1994.
8. Application of MÖssbauer Spectroscopy – Green Mood.
9. NMR, NQR, EPR and MÖssbauer Spectroscopy in inorganic chemistry – R.V Parish, Ellis, Harwood.

10. Molecular Structure and Spectroscopy – G. Aruldhas, Prentice Hall of India Pvt.Ltd, New Delhi, 2001.
11. MÖssbauer Spectroscopy – N.N. Green Wood and T.C. Gibb, Chapman, and Hall, Landon 1971.
12. Coordination Chemistry: Experimental Methods- K. Burger, London Butter Worths, 1973.
13. Analytical spectroscopy – Kamlesh Bansal, Campus books, 2008.
14. Structural Inorganic Chemistry MÖssbauer Spectroscopy – Bhide.
15. Principle of MÖssbauer Spectroscopy – T.C. Gibb, Chapman, and Hall, Landon 1976.

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CHOICE BASED CREDIT SYSTEM
FIRST YEAR M.Sc. CHEMISTRY
M Sc., ORGANIC CHEMISTRY (OC)
II SEMESTER SYLLABUS
(EFFECTIVE FROM THE ACADEMIC YEAR 2015-2016)
CHEM-OC/NP: 201: PAPER-I INORGANIC CHEMISTRY –II

UNIT –I: REACTION MECHANISMS OF COMPLEXES
UNIT–II: ELECTRONIC SPECTRA OF TRANSITION METAL COMPLEXES
UNIT-III: METAL-CARBONYL CLUSTERS
UNIT-IV: BIOINORGANIC CHEMISTRY

UNIT-I REACTION MECHANISMS OF COMPLEXES: 15Hours
Reactivity of metal complexes, inert and labile complexes, Kinetics and mechanisms of substitution reactions, kinetics of substitutions reactions in ocatahedral complexes, acid hydrolysis, Factors affecting acid hydrolysis, Base hydrolysis, Conjgate base mechanism, Anation reactions, substitution reactions in square planar complexes, Trans effect, Mechanism of trans effect, Electron transfer reactions, inner sphere and outer sphere mechanisms, Marcus theory.

UNIT-II: ELECTRONIC SPECTRA OF TRANSITION METAL COMPLEXES: 15Hours
Free Ion terms and Energy Levels: Configurations, Terms, States and Microstates, calculation of Microstates for P^2 and d^2 Configuration, L-S (Russel- Saunders) Coupling Schemes, J-J Coupling scheme, derivation of terms for P^2 and d^2 configuration. Hole Formulation, Energy ordering of terms (Hund's Rules), Selection rules: Laporte orbital selection rule, spin selection rules. Splitting of energy levels and spectroscopic states Orgel diagrams of d^1 to d^9 metal complexes. Interpretation of electronic spectra of aquo Complexes of Ti(III), V(III), Cr(III), Mn(II), Fe(II), Fe(III), Co(II), Ni(II) and Cu(II). Calcultion of interelectronic and spectral parameters for d^8 metal complexes. Tanabe- Sugano diagrams for d^2 and d^6 octahedral complexes. Charge transfer (L →M and M→L) spectra of metal complexes.

UNIT-III : METAL-CARBONYL CLUSTERS : 15Hours

Anionic and hydrido clusters . Low nuclearity clusters (LNCCs) (Triatomic and tetra atomic). Isoelectronic and isolobal relationships.Structural patterns of high nuclearity carbonyl clusters (HNCCs) Electron counting Schemes of HNCCs- Wades rules. The capping rule. HNCCs of the Fe, Ru, ans Os group. HNCCs of Co, Rh and Ir group, HNCCs Ni, Pd and Pt; Octahedral metal hailde and chalcogenide clusters , chevral phases, compounds with M-M multiple bonding, Major structural types (Edge sharing bi-octahedra, face sharing bi-octahedra, tetragonal prismatic and trigonal antiprismatic structure)-Quadruple bond, One dimensional solids

UNIT-IV BIOINORGANIC CHEMISTRY : 15Hours

i) Essentials and trace elements in biology: Classification, concept of essentially, Evolution of essential trace elements, Role of Bulk (structural) elements and minerals, working of essential trace elements, Deficiency signs and specific function of essential trace elements (Fe, Cu, Co, Ni, Zn, F,I,Se). Antagonism and synergism among essential trace elements.

ii) Oxygen uptake proteins Structural and functional aspects of Heamoglobin(Hb), Myglobin(Mb), Heamoerythrin(He) and Heamocyanine(Hc). Oxygen binfing curves for Hb and Mb, structure-function relationships.

iii) Photosynthesis: Structure of Chlorophyll, photosynthesis in bacteria and in green plants (Z-scheme involving PS I & PS II).

References:

1. Symmetry and Spectroscopy of Molecules, by K. Veera Reddy, New Age International Publishers, New Delhi, 1998.
2. Concise Inorganic Chemistry by J. D. Lee, ELBS, 4th edition, 1994.
3. Advanced Inorganic Chemistry by F.A. Cotton and G. Welkinson, 5th Edn., John Wiley and Sons, New York.
4. Inorganic Chemistry by J. E. Huheey, E.A. Keiter and R.A. Keiter, 4th edition, Addison Wesley Publishing Company, New York, 2000.
5. Bioinorganic Chemistry, R.W. Hay, Ellis Horwood Ltd., Chichester, New York. 1984.
6. Bioinorganic Chemistry, K. Hussain Reddy, New Age International Publishers, New Delhi, 2003.
7. Reaction Mechanism of metal complexes, Robert W. Hay, Harwood Publishers, Chichester, England, 2000.
8. Inorganic Reaction Mechanisms, M.L. Toba and John Burgess, Addision Wesley, Longman, 1999.
9. Mechanism of Reactions in transition metal sites, Richard A. Henderson, Oxford Science Publications, London, 1993.

10. Kinetics and Mechanisms of Reactions of Transition metal complexes, R.G. Wilkins, 2nd Ed., V.C.H. Publications, 1991.
11. Mechanisms of Inorganic Reactions, F. Basalo and R.G. Pearson, Wiley Easter, 2nd Ed., 1997.
12. Inorganic Electronic Spectroscopy by A. B.P. Lever Elsevier.

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CHOICE BASED CREDIT SYSTEM
FIRST YEAR M.Sc. CHEMISTRY
M Sc., ORGANIC CHEMISTRY (OC)
II SEMESTER SYLLABUS
(EFFECTIVE FROM THE ACADEMIC YEAR 2015-2016)
CHEM-OC/NP: 202: PAPER-II ORGANIC CHEMISTRY –II

UNIT – I: PERICYCLIC REACTIONS
Unit—II: REAGENTS OF SYNTHETIC IMPORTANCE (OXIDATIONS & REDUCTIONS)
Unit—III: CONFORMATIONAL ANALYSIS OF ACYCLIC SYSTEMS
Unit—IV: HETEROCYCLIC COMPOUNDS

UNIT – I: PERICYCLIC REACTIONS : 15Hours

Molecular orbital symmetry. Frontier orbitals of ethylene, 1,3-butadiene, 1,3,5-hexatriene. Classification of pericyclic reactions. Woodward – Hoffmann correlation diagrams. FMO and PMO approach. Electrocyclic reactions – conrotatory and distoratory motions. 4n, 4n + 2. Cyclo additions – antarafacial and suprafacial additions, 4n, and 4n + 2.

Sigmatropic rearrangements – suprafacial and antarafacial shifts of H, sigmatropic shifts involving carbon moieties, 3,3-sigmatropic rearrangements. Claisen, cope and aza-Cope rearrangements.

Unit—II: REAGENTS OF SYNTHETIC IMPORTANCE (OXIDATIONS & REDUCTIONS) : 15Hours

(a) Oxidations: (i) Alcohols to carbonyls: Cr(VI) oxidants, Swern oxidation, SilverCarbonate. (ii) Prevost and Woodward oxidation. (iii) Oxidations of allylic and benzylic C-H bonds: DDQ and SeO_2.

(b) Reductions : (i) Catalytic hydrogenation: Homogeneous hydrogenation-Use of Wilkinsons catalyst. (ii) Dissolving metal reductions including Birch reduction. (iii) Nucleophilic metal

hydrides : $LiAlH_4$, $NaBH_4$, and their modifications. Electrophilic metal hydrides : BH_3, and AlH_3. (iv) Hydrogenolysis, use of tri-n-butyltin hydride.

(c) Organometallic reagents: Preparation and application of the following in organic synthesis : (i) Organo lithium and Organo copper reagents. (ii) Organo boranes in C—C bond formation.

Unit—III: CONFORMATIONAL ANALYSIS OF ACYCLIC SYSTEM: 15Hours

Introduction to conformational isomerism and the concept of dynamic stereochemistry, Study of conformations in ethane and 1,2-disubstituted ethane derivatives like butane, dihalobutane halohydrin, ethylene glycol, butane-2,3-diol, amino alcohols and 1,1,2,2-tetrahalobutanes. Klyne-Prolog terminology for conformers and torsion angles. Conformations of unsaturated acylic compounds (1-butene, propionaldehyde and butanone). Conformational diastereoisomers and conformational enantiomers. Factors affecting the conformational stability and conformational equilibrium-attractive and repulsive interactions. Use of physical and spectral methods in conformational analysis.

Conformational effects on the stability and reactivity of acyclic diastereoisomers-steric and stereo electronic factors-examples. Conformation and reactivity. The Winstein-Holness equation and the Curtin-Hammett principle.

Unit—IV: HETEROCYCLIC COMPOUNDS: 15Hours

Importance of heterocyclic compounds as drugs. Nomenclature of heterocyclic systems based on ring size, number and nature of hetero atoms. Synthesis and reactivity of Indole, Benzofuran, Benzothiophene, Quinoline, Isoquinoline, Coumarin, Chromone, and Acridine.

References:

1. Conservation of orbital symmetry by Woodward and Hoffmann
2. Organic reactions and orbital symmetry by Gilchrist and Storr
3. Pericyclic reactions—a problem solving approach by Lehr and Merchand
4. Pericyclic reactions by Mukherjee
5. Mechanism and structure in organic chemistry by S, Mukherjee
6. Some modern methods of organic synthesis by W. Carruthers
7. Guide book of organic synthesis by R. K. Meckie, D. M. Smith & R. A. Atken
8. Reagents in organic synthesis by B. P. Munday and others
9. Organic synthesis by O. House
10. Organic synthesis by Michael B. Smith
11. Reagents for organic synthesis by Fieser & Fieser, Vol. 1-11 (1984)

12. Hand book of reagents for organic synthesis by Reich and Rigby Vol. I & IV
13. Organic Synthesis by Robert E Ireland
14. The third dimension in organic chemistry by Alan Bassindale
15. Stereochemistry of carbon compounds by Ernest L. Eliel
16. Stereochemistry by V. M. Potapov
17. Stereochemistry of Organic compounds- Principles and Appplications by D. Nasipuri
18. Stereochemistry, Conformational and Mechanism By P. S. Kalsi.
19. Heterocyclic chemistry, T. L. Gilchrist, Longman UK Ltd., London(1985)
20. Heterocyclic chemistry, 3rd Edn. J. A. Joule, K. Mills and G. F. Smith, Stanley Thornes Ltd,., UK, (1998)
21. The Chemistry of Indole, R. J. Sunderberg, Academic Press, New York (1970)
22. Benzofurans, A. Mustafa, Wiley- Interscience, New York (1974)

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Re-Accredited by NAAC with Grade "A"
CHOICE BASED CREDIT SYSTEM
FIRST YEAR M.Sc. CHEMISTRY
M Sc., ORGANIC CHEMISTRY (OC)
II SEMESTER SYLLABUS
(EFFECTIVE FROM THE ACADEMIC YEAR 2015-2016)
CHEM-OC/NP: 203: PAPER-III PHYSICAL CHEMISTRY –II

UNIT – I: THERMODYNAMICS – II
UNIT – II: ELECTRO CHEMISTRY – II
UNIT – III: QUANTUM CHEMISTRY – II
UNIT – IV: CHEMICAL KINETICS – II

UNIT – I: THERMODYNAMICS – II: 15Hours

A. Phase equilibria: Equilibrium between two phases of one component. The Clapeyron equation. The Clausius Clapeyron equation. Applications. Integrated form of Clapeyron equation.

B. Phase rule: Thermodynamic derivation of phase rule – Systems of two components. Simple eutectic. Azeotropes. Thermal analysis. Three component systems (Two salts and water). Roozeboom plots.

C. The equilibrium constant: Equilibrium in homogeneous gaseous systems. Free energy change in chemical reactions. Vant' Hoffs reaction isotherm. Integrated form. Direction of chemical change. Determination of Standard free energies.

UNIT – II: ELECTRO CHEMISTRY – II: 15Hours

A. Concept of activity and activity coefficient of an electrolyte. The mean ionic activity coefficient. Calculation of mean ionic activity coefficients. Debye Huckel theory of solutions. Debye Huckel Limiting law and its verification.

B. Electrode polarization – Decomposition potential and over voltage. Influence of C.D. on over voltage. Influence of P^H on over voltage, influence of temperature on over voltage – Theories of over – voltage. Hydrogen over – voltage.

C. The Deposition and corrosion of metals: Physical nature of electrodeposited metals – 1) Current density 2) Concentration of electrolyte 3) Temperature 4) Colloidal matter 5) Electrolyte 6) Basis metal. Throwing power separation of metals by electrolysis. Electrochemical passivity. Theories of passivity. Corrosion of metals. Hydrogen evolution type.

UNIT – III: QUANTUM CHEMISTRY – II: 15Hours

A. Particle in a box. One dimensional and three dimensional. Plot of Ψ and Ψ^2 – Discussion. Degeneracy of energy levels. Comparison of classical and quantum mechanical particles. Calculations using wave functions of the particle in a box – Normalisation and orthogonality, measurability of energy, position momentum, average values and probabilities. Application of the spectra of conjugated molecules.

B. Schrodinger equation for the Hydrogen atom – Separation of variables. Quantum numbers n, 1 and m. Hydrogen like wave functions. Complete wave function angular and radial functions. Radial distribution functions. Hydrogen like orbitals and their representation – Polar plots, Contour plots and boundary diagrams.

UNIT – IV: CHEMICAL KINETICS – II: 15Hours

A. Homogeneous catalysis. Mechanism of catalysis. Equilibrium treatment. Steady state treatment. Acid base catalysis: Mechanism of acid base catalysis. Catalysis by enzymes. Influence of P^H. Micholis Menton law. Influence of temperature. Examples. Decomposition of acetaldelyde catalysed by Iodine. Catalysed decomposition of hydrogen peroxide.

B. Free radicals in chemical reactions. Hydrogen oxygen reaction. Upper and lower explosion limits. Heterogeneous reactions. Bimolecular reactions. Adsorption. Langmuir adsorption isotherm. Electronic theories of chemisorption and heterogeneous catalysis.

C. Introduction to enzyme catalysis. Michales – Menton Kinetics – Effect of pH and effect of temperature on the rates of enzyme reactions.

References:

1. A Text Book of Thermodynamcis by Rajaram and Kuriakose.
2. Thermodynamics for Chemistry by S. Glasstone.
3. Text Book of Physical Chemistry by Levine.
4. Electrochemistry by S. Glasstone.
5. Quantum Chemistry by Hanna.
6. quantum Chemistry by A.K. Chandra
7. Chemical Kinetics by K.J. Laidler.

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II SEMESTER SYLLABUS
(EFFECTIVE FROM THE ACADEMIC YEAR 2015-2016)
CHEM-OC/NP: 204: PAPER-IV: ENVIRONMENTAL CHEMISTRY (60 hrs.)

UNIT: I: HYDROSPHERE

UNIT: II: ATMOSPHERE

UNIT: III: ENVIRONMENTAL TOXICOLOGY AND GREEN CHEMISTRY

UNIT: IV: ENVIRONMENTAL MONITORING METHODS

UNIT: I: HYDROSPHERE: 15 Hours

Introduction to Chemical composition of Environment- Bio distribution of elements Chemical composition of water bodies- lakes, streams, rivers and wet lands, Hydrological cycle. Aquatic pollution, inorganic, organic pesticides, agricultural, industrial and sewage, detergents. oil spills and oil pollutants, Water quality parameters,- DO, COD, BOD. Solids, metals, Contents of Chloride, sulphate, phosphate nitrate and micro organisms. Analytical methods of measuring BOD, DO, COD, Metals (As, Cr, Cd, Hg, Pb, Se) residual chloride and chlorine demand. Purification and treatment of water.

UNIT: II: ATMOSPHERE: 15 Hours

Chemical composition of Atmosphere- particles, ions and radicals and their formation, Chemical and photochemical reactions in atmosphere, smog formation, Oxides of N,C,S and their effects, pollution by chemicals, petroleum and minerals, chlorofuorocarbons, Green House effect, Chemical reaction in ozone depletion, Acid rain, Analytical methods for measuring air pollutants, Air pollution monitoring. Air pollution control methods.

UNIT: III: ENVIRONMENTAL TOXICOLOGY AND GREEN CHEMISTRY: 15 Hours

(a) Toxicological Chemistry: Introduction to toxicological chemistry, dose

response relationship, relative toxicities. Teratogenesis, mutagenesis, carcinogenesis, Immune system effects, Health hazards, Toxic elements and elemental farms, Toxic inorganic compounds, Toxicology of organic compounds, Effect of Toxic chemicals on enzymes, biochemical effects of As, Cd, Hg and Oxides of Sulphur and nitrogen.

(b)Green Chemistry: Definition of Green Chemistry, Principles of Green Chemistry, Experimental systems. This measurement of greenness environmental factor, Historical approach, tools of green Chemistry, Catalysis and bio-catalysis of Green Chemistry, examples of Green Chemistry, Pharmaceutical industry and Green Chemistry, Pesticides, Solvents, Green Chemistry, Sugar and distilleries, wastes and future trends in Green Chemistry.

UNIT: IV: ENVIRONMENTAL MONITORING METHODS:

(a) Monitoring of Air pollutants: Analysis of gaseous pollutants –SO_2, H_2S, NO, NO_X, NH_3, CO, CO_2, Ozone, organic gases and vapours. Continuous monitoring of air pollutants –principles, monitoring instruments, monitoring of SO_2, H2S, NO-NO_X, CO,CO_2,hydrocarbons ozone suspended particulate matter, chemical and photo chemical reactions in atmospheres.

(b) Monitoring of water pollutants: Analysis of polluted water samples using AAS, HPLC and ICP methods

REFERENCE BOOKS:

1. Environmental Chemistry by Moore & Moore.
2. Environmental Chemistry by Mahanan, VIth Edition, Lewis Publications.
3. Environmental Chemistry by B.K.Sharma. Goel Publications.
4. Environmental Chemistry by Ohra & Thyogi.
5. Environmental Chemistry by Benrgia.
6. Environmental Pollution and control in chemical process and industries by S.K.Bhatia.
7. Environmental Pollution by S.S. Dara.
8. Environmental Pollution analysis by S.M.Khopkar.
9. Industrial chemistry by B.K Sharma;Goel Publications
10. Introduction to Nanoscale Science.and Technology(ed)Massimiliano D. Ventra (kluwer academic).

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CHOICE BASED CREDIT SYSTEM
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(EFFECTIVE FROM THE ACADEMIC YEAR 2015-2016)
FIRST YEAR INORGANIC CHEMISTRY LAB COURSE
Under CBCS

FIRST YEAR (Total Marks 100)
FIRST SEMESTER
Qualitative semi micro Inorganic analysis:

Semi micro qualitative inorganic mixture analysis containg four cautions. The analysis involves identification and conformation of citations containg the less familiar rare elements such as Tungsten, Molybdenum, Zirconium, Thorium, Titanium, Uranium, Cerium, Vanadium, Lithium, Berkelium Etc...

(A minimum of 4 mixtures are to be analyzed)

SECOND SEMESTER
Quantitative Inorganic analysis:

A. 1.Estimation of zinc in presence of copper

2. Estimation of nickel by gravimetry using DMG

B. Preparations of Inorganic Complexes

1. Preparation of tetra ammine Cu (II) sulfate

2. Preparation of Hexa ammine Ni (II) chloride.

3. Preparation of Potassium tri Oxalato Chromate (III)

4. Mercuric tetrathiocynato Cobaltite (II)

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FIRST YEAR ORGANIC CHEMISTRY LAB COURSE
Under CBCS

FIRST YEAR (Total Marks 100)

I) Laboratory techniques (For Demonstration Purpose only), Determination of Melting Point /Boling Point, Ordinary Distillation, Vaccum distillation/filtration, Recrystallization, Drying of Organic Compounds, TLC analysis, Column Chromatography.

II) Qualitative Systematic Analysis of single Organic compound,

III) Preparation of single step organic compounds

i) Aspirin from salicylic acid (Acetylation)
ii) β-naphthylmethylether (Methylation)
iii) Iodoform
iv) Diels-Alder Reaction

SECOND SEMESTER LAB COURSE

I) Separation of two component mixtures by chemical methods and their identification by chemical reactions. Separation by using solvent water, Ether, 5% aq. sodium bicarbonate, aq. 5% sodium hydroxide, and 5% aq. hydrochloric acid solutions. Identification of each compound by a systematic study of the physical constants M.P/B.P, extra elements (Nitrogen, Halogen), Solubility, Functional groups and preparation of crystalline derivatives

Note: As minimum of 5 mixtures should be separated and analyzed by these procedures

II) Multi step synthesis of Organic compounds

i) Beckmann rearrangement : Benzophenone → Benzophenone oxime → Benzanilide

ii) Benzilic acid rearrangement : Benzoin→Benzil → Benzilic acid

iii) Acetylation: Analine → Acetanilide → Parabromo Acetanilide

Perkin Reactions : Preparation of Cinnamic acid

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CHOICE BASED CREDIT SYSTEM
FIRST YEAR M.Sc. CHEMISTRY
M Sc., ORGANIC CHEMISTRY (OC)
(EFFECTIVE FROM THE ACADEMIC YEAR 2015-2016)
FIRST YEAR PHYSICAL CHEMISTRY LAB COURSE
Under CBCS

FIRST SEMESTER (Total Marks 100)

Instrumental methods of Analysis

Conductometry

Titration of strong acid vs strong base (HCl vs NaOH)
Titration of weak acid vs strong base (AcOH vs NaOH)
Titration of mixture of acids (HCl +AcOH) Vs strong base (NaOH)

Potentiometry

Titration of a strong acid vs strong base **(**HCl vs NaOH)
Titration of weak acid vs strong base (AcOH vs NaOH)
Redox titration (Fe^{2+} Vs $K_2Cr_2O_7$)

Colorimetry

Determination of wavelength of maximum absorbance of a colored solution
Verification of Beers Lambert's law and estimation of given unknown.

SECOND SEMESTER

Distribution

Distribution of acetic acid between n-butanol and water.
Distribution of iodine between CCl_4 and water.
Distribution of benzoic acid between Benzene and water & to prove dimerization of benzoic acid in benzene.

Chemical Kinetics

Acid catalysed hydrolysis of methyl acetate & to determine the relative strengths of acids.

Rast's Method

Determination of cryospoic constant using known solute.
Determination of molecular weight of unknown nonvolatile solute.

Adsorption

Adsorption of acetic acid or Oxalic acid on the surface of charcoal and verification of Freindlich Adsorption isotherm

Critical Solution Temperature (CST)

Determination of CST of Phenol water System

Effect of Neutral Salt on CST

M.A English

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KURNOOL

MA in English

Syllabus with Effect from 2015-2016

SEMESTER-I

PAPER 1.1: POETRY-I

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

UNIT-I

1.. Geoffrey Chaucer	The Prologue to the Canterbury Tales
	(Portraits of the Knight, the Nun, the Friar, the Clerk,
	the Wife of Bath)

UNIT-II

2. John Donne	Canonization
	A Valediction: Forbidding Mourning
3. John Milton	Paradise Lost Book- IX

UNIT-III

4. William Wordsworth	Tintern Abbey
	Ode on the Intimations of Immortality
5. S.T. Coleridge	The Rime of the Ancient Mariner

UNIT-IV

6. P.B. Shelley	To a Skylark

	Ode to the West Wind
7. John Keats	Ode to a Nightingale
	Ode on a Grecian Urn

PAPER 1.2: DRAMA-I

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

UNIT-I

1. Sophocles Oedipus Rex

UNIT-II

2. Christopher Marlowe Dr. Faustus

UNIT-III

3. William Shakespeare Hamlet

4. William Shakespeare As You Like It

UNIT-IV

5. William Congreve The Way of the World

6. Oscar Wilde The Importance of Being Earnest

PAPER 1.3: NOVEL-I

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

UNIT-I

1. Henry Fielding Joseph Andrews

UNIT-II

2. Jane Austen Pride and Prejudice

3. Charles Dickens Hard Times

UNIT-III

4. George Eliot Mill on the Floss

UNIT-IV

5. Thomas Hardy Tess of the D'Urbervilles

6. Albert Camus The Outsider

PAPER 1.4: INDIAN ENGLISH LITERATURE-I

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

UNIT-I

1. A.K. Ramanujan	Love Poem for a Wife 1
	Small Scale Reflections on a Great House
	Obituary (*Ten Twentieth Century Indian Poets*, OUP)
2. Jayanta Mahapatra	Grass
	Lost

UNIT-II

3. Kamala Das	An Introduction
	My Grandmother's House
	(*Ten Twentieth Century Indian Poets*, OUP)
4. Gauri Deshpande	The Female of the Species
	Elegy for a Friend

UNIT-III

4**.** Nissim Ezekiel	Night of the Scorpion
	Poet, Lover, Birdwatcher

UNIT IV

5. Girish Karnad	Hayavadana
6. Manjula Padmanabhan	Harvest

PAPER 1.5: PHONETICS AND GRAMMAR

UNIT-I

1. The Speech Mechanism

2. English Vowels

3. English Consonants

UNIT-II

4. Word Accent

5. Accent and Rhythm in Connected Speech

6. Phonological Environment: Assimilation, Elision, Juncture

7. Intonation

UNIT-III

The following chapters from *A Student's Grammar of the English Language* by Sidney Greenbaum and Randolph Quirk:

Chapter1. Varieties of English

Chapter2. Some Major Concepts and Categories

Chapter3. Verbs and auxiliaries

UNIT-IV

The following chapters from *A Student's Grammar of the English Language* by Sidney Greenbaum and Randolph Quirk:

Chapter4. The semantics of the verb phrase

Chapter5. Nouns and determiners

Chapter10. The simple sentence

Reference

1. A.C. Gimson *An Introduction to the Pronunciation of English*

2. J. Sethi and P.V. Dhamija *A Course in Phonetics and Spoken English*

3. Daniel Jones *English Pronouncing Dictionary* (18th Edition)
Ed. Peter Roach, Jane Setter, and Jane Esling

SEMESTER-II

PAPER 2.1: POETRY-II

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

UNIT-I

1. Alfred Tennyson Ulysses

2. Robert Browning My Last Duchess

UNIT-II

3. Matthew Arnold Dover Beach

4. G.M. Hopkins The Windhover

Pied Beauty

UNIT-III

5. W.B. Yeats The Second Coming

An Irish Airman Foresees His Death

6. T.S. Eliot The Waste Land

UNIT-IV

7. W.H. Auden The Shield of Achilles

8. Dylan Thomas A Grief Ago

9. Philip Larkin Church-Going

10. Ted Hughes The Thought-Fox

PAPER 2.2: DRAMA-II

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

UNIT-I

1. Henrik Ibsen A Doll's House

2. J.M. Synge Riders to the Sea

UNIT-II

3. G.B. Shaw St. Joan

4. T.S. Eliot Murder in the Cathedral

UNIT-III

5. Samuel Beckett Waiting for Godot

6. John Osborne Look Back in Anger

UNIT-IV

7. Harold Pinter The Birthday Party

8. Tom Stoppard Rosencrantz and Guildenstern are Dead

PAPER 2.3: NOVEL-II

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

UNIT-I

1. Joseph Conrad — Heart of Darkness

2. D.H. Lawrence — Sons and Lovers

UNIT-II

3. James Joyce — A Portrait of the Artist as a Young Man

4. Hermann Hesse — Siddhartha

UNIT-III

5. Virginia Woolf — Mrs. Dalloway

6. Graham Greene — The Power and the Glory

UNIT-IV

7. William Golding — Lord of the Flies

8. Margaret Drabble — The Waterfall

PAPER 2.4: INDIAN ENGLISH LITERATURE-II

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

UNIT-I

1. Mulk Raj Anand Untouchable

2. Raja Rao Serpent and the Rope

UNIT-II

3. Salman Rushdie Midnight's Children

4. R.K. Narayan The Guide

UNIT-III

5. Bharati Mukherjee Jasmine

6. Jhumpa Lahiri The Wayland

UNIT-IV

7. Sri Aurobindo The Renaissance in India

8. M.K. Gandhi My Experiments with Truth

PAPER 2.5: HISTORY OF THE ENGLISH LANGUAGE

UNIT-I

1. Grimm's Law and Verner's Law

2. Ablaut

3. Umlaut

4. The Great Vowel Shift

UNIT-II

3. Foreign Influences: Latin, French, Scandinavian

4. Makers of English: The Bible, Shakespeare

UNIT-III

5. Word Formation

6. Change of Meaning

UNIT-IV

7. The Rise of Standard English

8. Spelling Reform

9. British English and American English

10. Indian English

Reference

1. H.C. Wyld — *A Short History of English*

2. Albert C. Baugh — *A History of the English Language*

3. Stuart Robertson and Frederic G. Cassidy — *The Development of Modern English*

4. F.T. Wood *An Outline History of the English Language*

M.Com Commerce

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SYLLABUS FOR FIRST YEAR M.COM PROFESSIONAL FOR THE ACADEMIC YEAR 2015-16

SEMESTER – I

PAPER - I: BUSINESS ECONOMICS

Time: 3 Hours **No of hours per week: 5** **INTERNAL=25**

SEMESTER=75

TOTAL=100

Objective: The objective of this paper is to impart conceptual and practical knowledge of business economics.

UNIT I –Introduction to business Economics: Nature and Scope - Significance of Economics for Management - Objectives of the Firm – Role and responsibility of managerial economist; Fundamental economic Concepts: incremented principle, opportunity cost principle, Discounting principle and Equi-Marginal Principle.

UNITII -Demand Analysis and supply analysis:

Concept – Determinants of Demand – types of Demand - Law of Demand –Elasticity of Demand – its meaning, Importance of Elasticity of Demand types of elasticity- Price,income and cross elasticity of demand- Demand Forecasting ; Supply:- Law of supply- Determinants of supply

UNIT III – Cost Analysis and Production Analysis

Cost Concepts – cost classification- cost Determinants – Cost-output relationships in short run and long run; Cost control and cost reduction; factors Hampering cost control in India Meaning and Definition of Production Function – Law of marginal utility, Law of returns to scale and Law of Variable Proportions- Production function with One, Two and all variable input factors- Cobb-Douglas Production Function.

UNIT IV –Profit and Price Analysis:

Nature of Profit - kinds of Profit Theories of profit- Price determinates in different market situation; Perfect competition, Monopolistic competition, Monopolity, Price discrimination and Oligopoly- Pricing strategies; Pricing Methods- Product Line Pricing- Transfer Pricing- Pricing by Retailers – Export Pricing-Dual Pricing – Administered Pricing

UNIT V- Trade cycles

Trade cycles-Meaning-Phases-Consequences-Remedies

Suggested Readings:

1. Mithani, D.M., Managerial Economics, Himalaya Publishing House, New Delhi

2. Mehta, P.L., Managerial Economics, Text and Cases, S.Chand Company publishers, New Delhi

3. Varshney, RL, and Maheswari, K.L., Managerial Economics, S. Chand Publishers, New Delhi

4.Dwivedi, D.N., Managerial Economics, Vikas Publishing House Pvt. Ltd.,

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SYLLABUS FOR FIRST YEAR M.COM PROFESSIONAL FOR THE ACADEMIC YEAR 2015-16

SEMESTER - I

PAPER - II: BUSINESS ENVIRONMENT & GOVERNMENT POLICY

EXTERNAL MARKS: 75 **No of hours per week: 5** **Max time: 3 Hours**

INTERNAL MARKS: 25

Objective: The objective of the course is to equip student with prevailing business environment and government policy in the country.

Unit I: Introduction to Business Environment:

Concept, Significance and Nature of business Environment- Internal and External Environment- Changing Dimensions of Business Environment – Techniques of Environmental Scanning and Monitoring

Unit II: Business Policy:

Government Policies- Industrial Policy1948, 1956, 1991, Industrial policy reforms after 2001 Fiscal Policy- Monetary Policy- EXIM Policy- Economic Reforms, Liberalization and Structural Adjustment Programmers.

Unit III - Economic Environment of Business: Significance and Elements of Economic Environment - Economic system and Business Environment – Economic Planning in India - Public Sector and Economic Development - Development Banks and Relevance to Indian Business

UNIT IV: Political and Legal Environment:

Changing Dimensions of Legal Environment in India - MRTP Acts - FEMA and Licensing - Consumer Protection Act - Political Institutions - Reasons for State Intervention - Types and Extent of Intervention

UNIT V: Socio-Cultural Environment: Critical elements of socio-cultural environment – social institutions and systems – social values and attitudes- social groups- Middle class- Dualism in India Society and problems of uneven income distribution- Emerging rural sector in India- India business system – social responsibility of business- Consumerism in India.

References:

- Adhikary, M: Economic Environment Business, Sultan Chand & Sons, New Delhi.
- Ahluwalia, I.J: Industrial Growth in India, Oxford University press, New Delhi.
- Alagh, Yoginder K: Indian Development policy, Vikas pun. New Delhi.
- Aswathappa.K. Legal Environment of Business, Himalaya publishcation, Delhi.

SEMESTER –I

Paper - III: QUANTITATIVE TECHNIQUES

Internal Marks: 25 No. of Hours per Week: 5 Exam Duration: 3Hrs

External Marks: 75

Objective: To provide a conceptual understanding of statistical techniques applied for business decisions

UNIT:I: - Measures of Relationship :-

Measures of Relationship –Karl Pearson's- co-efficient of correlation- Regression Analysis. (Theory & Problems)

UNIT: II: - Probability and Theoretical distribution:-

Meaning and Definition of Probability- Types of Events – Theorems of Probability- Addition &Multiplication Theorem of Probability (simple Problems)
Meaning of Probability Distribution – Binomial –Poisson- Normal distributions (Theory & Problems)

Unit III: Theory of Estimation: Meaning of Theory of Estimation Characteristics of Good Estimator Point and Internal Estimation of Population Mean Proportion and Variance (Theory and Problems).

UNIT: IV: - Test of Significance:-

Meaning and Definition of Hypothesis – Procedure of testing of Hypothesis –t-Test –F-Test, Chi-square and Z test (Theory & Problems)

UNIT: V: - Statistical Quality Control:-

Meaning, objectives and Role of Statistical Quality Control – Procedure of Constructing Quality Control Charts – (Theory & Problems)

Reference:

- Kothari, Research Methodology,
- C.R. Reddy, Quantitative Methods for Management Decision, Himalaya Publishing House, Mumbai, 2009.
- Richard I. Levin and David S. Rubin, Statistics for Management, Prentice Hall of India, Private Limited, New Delhi.
- Hood R.P Statistics for Business and Economics, Sultan Chand & Sons, New Delhi.
- Guptha S.P., and Gupta M.P., Business Statistics, Prentice Hall, New Delhi

SEMESTER - I

PAPER-IV:- ORGANIZATIONAL BEHAVIOUR

Internal Marks: 25 No. of Hours per Week: 5 Exam Duration: 3Hrs

External Marks:75

Objective: the objective of this paper is to equip the student the fundamental knowledge of organizational behavior and techniques of understanding predicting and controlling human behaviour in organization effectively.

Unit I : Introduction to organizational behaviour Organizational Behaviour — definition- nature-scope-importance-fundamental concepts- historical evolution and development of OB-models of OB-OB as an interdisciplinary subject.

Unit II: Dynamics of individual behavior Personality-definition-determinants- types of personality-theories of personality- perception: definition- perceptual process- factors influencing Perception-perceptual blocks- honing perceptual skills- work motivation- concept and importance —Theories of motivation- Maslows need hierarchy theory- Herzberg's two factor theory —MeCelland's Achievement theory —Vroom Expectancy theory- Reinforcement theory of motivation- motivation in practice —work stress- meaning- causes and consequences — strategies and techniques to manage stress.

Unit III: Dynamics of Group Behaviour: Work group meaning- characteristics- reason for forming into groups- stages of group development —Group dynamics- Group cohesiveness-determinants of group cohesiveness- Leadership: concept and meaning —theories of leadership-trait theory- Behaviour theories —Contingency theories- Fielder contingency throes- reddin's 3-D model —Blake &Mouton's Managerial Grid model —Hersey & Blanchard's leadership life cycle theory- Conflict Management: Definition —causes and Consequences- conflict management styles.

Unit IV: Organisational Dynamics: Communication- meaning- factors influencing organizational communication- barriers to effective communication- Organisational change-behavioral reactions to change- planned change- approaches to manage organizational change-Organizational Effectiveness: indicators of effectiveness- approaches to achieve organizational effectiveness.

Unit V: Emerging aspects of Organizational Behaviour - **Organizational behaviour across cultures** - Conditions affecting multinational operations, Managing International Workforce, Productivity and cultural contingencies, Cross cultural communication.

Reference Books:

1. Stephen P. Robbins, Organizational Behavior, Prentice Hall of India Ltd.

2. Fred Luthans, OrganisationalBehaviour, Prentice Hall of India Ltd

3. John W. Newsroom and Keith Davis, Organizational Behaviour, Tata McGraw Hill

4. SubbaRao P, Management and Organisational Behavior, Himalaya Publications

SEMESTER –I

PAPER CODE 1505 Paper -V: ENTREPRENEURSHIP DEVELOPMENT

Internal Marks: 25 *No of Hours per week: 5* Max Time: 3hrs

External Marks: 75

Objective: The objective of this paper is to coin the students about the conceptual framework of entrepreneurship development along with financial institutions aiding to MSMEs in India.

UNIT I – Introduction: meaning and Definition of Entrepreneur and Entrepreneurship - Characteristics of Entrepreneur - Functions - Attitude and Leadership of Entrepreneur - Entrepreneur Vs Manager - Role of Entrepreneurship in Economic Development - Need for Rural Entrepreneurship - Women Entrepreneurship

UNIT II - Entrepreneurship Development: Economic and Non-economic Factors Affecting Entrepreneurship Development - Government Actions, Entrepreneurial Motivation, Competencies and Mobility - Entrepreneurship Development Programmes (EDPs) - Growth of Entrepreneurship in India

UNIT III - Objectives, Characteristics and Importance of MSMEs in Indian Economic Development - Role of MSMEs during Planning Era - New Small Enterprise Policy 1991 - Policies and Programmes for Promoting MSMEs

UNIT IV- Institutional Finance: Need of Institutional Infrastructure for MSMEs - Role of Commercial Banks, IDBI, SFC, NABARD, SIDO, NSIC, NISIET, NIESBUD, NRDC, SIDBI, DIC, SIDCs for development of MSMEs - Drawbacks and Problems of MSMEs - Prospects and Opportunities of MSMEs.

UNIT V – Concept of project and classification of project identification project formulation - project report - project design - project appraisal - profitability appraisal - project planning - social cost benefit analysis - financial analysis and project financing.

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, ShikshaSahai, Entrepreneurship, Excel Rooks, New Delhi

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SEMESTER - II

PAPER :VI - HUMAN RESOURCE MANAGEMENT

Internal Marks: 25 *No of Hours per week: 5* Max Time: 3hrs

External Marks: 75

Unit I: Introduction: HRM Concept-Nature, Scope, Objectives and Importance of HRM- HRM as a Profession- Functions of HRM- Emerging trends in HRM in the 21st Century.

Unit II: Human Resource Planning: HRP Concept —Nature — Importance —Factors Affecting HRP — Requisites for Successful of HRP —Job Analysis Methods and Purposes- Job Description —Job Specification — Job Evaluation- Process and Methods of Job Evaluation.

Unit III: Recruitment, Selection, Training and Development: Recruitment- Source of Recruitment- Selection Process- Interview Test - Training Methods- Evaluating Training Effectiveness- Career Planning and Career Development.

Unit IV: Appraising and Managing Performances: Performance Appraisal System- Concept- Appraisal Methods — Challenges of Performance Appraisal- Possible Errors in the Appraisal Process- Planning for performance improvement —Recent trends in Appraisal system.

Unit V: Labour relations and employee security Industrial relation and collective bargaining: Trade unions - Collective bargaining - future of trade unionism. Discipline administration - grievances handling - managing dismissals and separation.

Reference:

- SubbaRao, P., Personnel and Human Resource Management, Himalaya Publishing House, Mumbai.
- David A. Decenzo& Stephen P.Robbins: Personnel/Human Resource Management, Prentice-Hall of India Ltd., Delhi.
- William B.Werther J.R. & Keith Davis: Human Resource and personal Management, Mc-Graw Hill.
- Pareek, V&T, V, Rao: Designing and Management Human Resource Systems, oxford and IBM, Delhi.
- P.C. Tripati: personnel Management, S.Chand, New Delih.
- Drwar, , R.S.: personal Management and Industrial Reletions,Vikas.
- C.S.VenkataRathnam, B.K.Srivastava: personal management and Human Resources,, Mc-Graw Hill.

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SEMESTER - II

PAPER VII: MARKETING MANAGEMENT

Internal:25

External:75 **No of hours per week: 5** **Max time: 3 Hours**

Objective: The objective of the course is to equip the student with various aspects relating Marketing Management.

Unit I: introduction:

Meaning –Nature - Scope and Importance of Marketing - Marketing Concept and its Evolution-Marketing Environment-Macro and Micro Components and Their Impact on Marketing Decisions-Marketing Segmentation and Positioning.

Unit II: Product Decision&Pricing Decisions:

Concept of a Product-Classification of Products-Major Product Decisions-Product line and Product Mix-Branding-Packaging and Labeling- Product Life Cycle Strategic Implications-New Product Development and Consumer Adoption Process

Unit lII: Pricing Decisions:

Factors Affecting Price Determination-Pricing Policies and Strategies-Discounts and Rebates.

Unit lV: Distribution Channels & Promotion Mix

Nature - Functions and Types of Distribution Channels-Distribution Channel Intermediaries-Channel Management Decisions-Retailing and Wholesaling.

Elements of Promotion Mix —Personal Selling Sales Promotion Advertising and Publicity.

Unit V: Consumer Behaviour:

Consumer Behaviour- nature-Scope- Importance- Factors influencing Consumer Behaviour – Economic- psychological- Cultural- Social and Personal- Models of Consumer Behavious –steps in consumer decision process – post purchase behaviour

References:

1. Kotler, Philip and Gary Armstrong: Principles of Marketing, Prentice Hall New Delhi

2. Kotler, Philip: Management-Analysis, Planning, Implementation and ConrolPrenti

3. Majumbar, Ramanuj: Product Management in India, Prentice Hall, New Delhi

4. McCarthy, E. Jerome and William D. PerreaultJr.Basic Marketing-Managerial

Approach,RichardD.Irwin, Homewood, Illinois

5. Ramaswamy, V.S and Nankumari.S., Marketing Management, Mcmillian India, New

Delhi

6. Srinivasan, R; Case Studies in Marketing: The India Context, Prentice Hall, New Delhi

7.Blackwell: Consumer Behaviour,10e.

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SEMESTER - II

PAPER- VIII: FINANCIAL MANAGEMENT

No of hours per week: 5 **Max time: 3 hours**

Internal Marks :25

External Marks :75

Objective: The objective of the course is to equip the student with financial Management concepts and skill.

Unit I: Introduction to Financial Management:

An Overview of Finance Function -Scope of finance Function- Financial Management — Meaning, Goals and Objectives of Financial Management-Time Value of Money.

Unit II Investment Decisions:

(a) Nature of Investment Decisions-Capital Budgeting- Meaning and Importance-Types of Capital Budgeting Decisions Methods of Appraisal-Payback Period- Average Rate of Return- Net Presents Value Method- Profitability Index- Internal Rate of Return- Capital Budgeting under Risk and Uncertainty.

(b) Cost of Capital: Concept, Importance- Measurement of Specific Cost of Various Sources of Capital-Measurement of Weighted Average Cost of Capital.

Unit - III (a) Financial Decisions:

Concept of Leverage- (A) Operating and Financial Leverage Combined Leverage – Measures of Various Leverages (B) Meaning - Meaning, Determinants of Capital structure-Optimum Capital Structure - Capital Structure Theories-Net Income Approach-Net Operating Income Approach-M.M. Hypothesis-Traditional View.

(C) Financial Restructuring- Meaning, Scope and Modes of Restructuring-, Merger, Takeover and Amalgamations.

Unit-IV:DIVIDEND AND RETAINED EARNINGS:

Dividend Policy Decisions; Parameters, Dividend Models; Policies Regarding Retained Earnings.

Unit V: Working Capital Management:

An overview- Concept of Working Capital- Determinants of Working Capital- Optimum Level of Current Assets- Estimating Working Capital Requirements.

References:

1. Pandey, I.M. Financial Management, Vikas Publishing House (p) Ltd.
2. Khan, M.Y. and Jain, P.K. Financial Management, Tata Mc- Graw Hill
3. Chandra prasanna: Financial Management, Tata Mc- Graw Hill
4. Hampton. Johni. Financial Decisions-Making: prentice Hill India (p)
5. Maheswari, S.N.: Principles of Financial Management, Sultan Chand.
6. Van Horn, James C. Financial Management, Prentice Hall India (p) Ltd

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SEMESTER - II

PAPER- IX: BUSINESS RESEARCH METHODOLOGY

No of hours per week: 5 Max time: 3 hours

Internal Marks :25

External Marks :75

UNIT-I :- Nature and scope of Business Research-Objective, Types and Characteristics of business research –Importance of business research –Application of business research-Steps involved in research process

UNIT-2 :- Formulation of business research problem: Selecting and defining the problem research design : meaning- purpose- research design decisions- research design for exploratory , descriptive and experimental studies.

UNIT-3 :- Collection of primary data- Interview, Questionnaires and schedules- Designing Questionnaires- collection of secondary data- sources of secondary data for business research . Sampling design, types of samples- criteria for selection of sample- Characteristics of good sample design.

UNIT-4:- Data processing and analysis: validity and reliability- data processing – editing coding and tabulation . Analysis of quantitative data – Application of statistical techniques –Averages, correlation, regression, time series- Analysis of qualitative data: Scaling techniques – important scaling techniques.

UNIT-5:-Interpretation and report writing: Inferences and generalizations- Significance of business research reports formant of research report- steps in preparing business research report – precautions in writing business research report- Characteristics of good research report.

References:

1. C.R.Kothari : Research Methodology Methods and techniques wishwaprakashan, New delhi
2. WilknsonandBhandarkar : Methodology and techniques of social science research, Himalaya publishing house.
3. Ferber R and VerdoomF.H : Research methods in economics and business.
4. Nammers B.E &Mysers J.H Business statistics, F.J Prentice Hall.
5. Spegal M.R. An Introduction to management for business analysis, Mc. Graw Hill.
6. Michael V.P Research methodology in management in Himalaya publishing.

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SEMESTER - II

PAPER -X: MANAGEMENT ACCOUNTING

Internal Marks:25 No of hours per week: 5 Max time: 3 hours

External Marks:75

Objective: The objective of the course is to equip the student with the account maximum concepts, tools and techniques necessary for managerial decisions.

Unit I - Introduction: Management Accounting as Area of Accounting – Objectives and Scope of Financial Accounting - Cost Accounting, and Management Accounting Management Accounting Managerial Decisions - Management Accountant Position, Role and Responsibilities

Unit II - Budgeting: Meaning and Definition of Budget - Essentials of Budgeting -Types of Budgets - Fixed and Flexible Budget - Budgetary Control - Zero-base Budgeting – Performance Budgeting -

Standard Costing as cost Technique - Setting of Standards and Their Revision - Meaning and Importance of Variances Analysis - Labour Overhead Variances - Disposal of Variances - Relevance of Variance Analysis Budgeting and Standard Costing

UNIT-III **Marginal Costing and Break-Even Analysis:** Meaning and Definition of Marginal **C**ost – Marginal Cost Versus Direct Costing –C-V-P Analysis- Assumptions in Break-Even Analysis - Practical Applications of Break-Even Analysis - Make or Buy Decisions of Product

Unit IV -Funds flow & Cash flow analysis:-

Funds- Meaning-Importance-limitations-preparation of funds flows statement & cash flow statements

Unit V -Contemporary Issues in Management Accounting: Value Chain Analysis – Activity-based Costing - Target and Life Cycle Costing- Objectives of Reporting – Types of

Reports – Need of Reporting at Different Managerial Levels and Different Management

.

Recommended Books:

1. Antony, Robert, Management accounting, Taraporewala Mumbai.
2. Docoster, Don T. and Elden L. Schater, Management Accounting. Decision Emphasis, John Wiley and Sons, INC, New York.
3. Horngran, C.T., Gary L. Sundem and Williarn O Stration Introduction Management Accounting, Prentice Hall, Delhi.
4. Pandey I.M., Management Accounting, Vani publication, Delhi.
5. Welsh Glern, A.RonaldW.Hilton and Pual N. Garden., Budgeting: Pro-Planning and Control, Prentice Hall, Delhi

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FUNDAMENTALS OF ACCOUNTANCY

SEMESTER – II OPEN ELECTIVE FOR ALL GROUPS

EXTERNAL MARKS : 75
INTERNAL MARKS:25

Objectives:

1. To make the students acquire the conceptual knowledge of accounting
2. To equip the students with the knowledge of accounting process and preparation of final accounts

UNIT1: Introduction to Accounting:

Need for Accounting – Definition, features, objectives, functions, systems and bases and scope of accounting - Book keeping and Accounting - Branches of Accounting - Advantages and limitations-basic terminology used- – Accounting concepts and conventions. Accounting Process-Accounting cycle-Accounting equation-Classification of accounts-rules of double entry book keeping – Identification of financial transactions- Journalizing –Posting to Ledgers, Balancing of Ledger Accounts –-

UNIT 2: Subsidiary Books & Trial Balance

Sub Division of Journal-Preparation of Subsidiary Books including different types of cashbooks- Simple cashbook, cashbook with cash and discount columns, cashbook with cash, discount and bank columns, cashbook with cash and bank columns and petty cash book Trial Balance: Meaning, Objectives, Methods of preparation

UNIT:3 :Final Accounts

Final Accounts: Meaning, features, uses and preparation of Manufacturing, Trading Account, Profit & Loss Account and Balance Sheet-Adjusting and Closing entries. Preparation of trial balance, trading, profit and loss account, processing of year ending and closing

UNIT :4: Errors and Rectification

Errors and their Rectification - Types of Errors - Rectification before and after preparations of final Accounts - Suspense Account- Effect of Errors on Profit.

UNIT - 5:Bank Reconciliation Statement

Bank Reconciliation Statement- Need - Reasons for difference between cash book and pass book balances – Problems on favorable and over draft balances - Ascertainment of correct cash book balance.

Suggested Books:

1. Accountancy - IS.P. Jain & K.L Narang , Kalyani Publishers
2. Accountancy – ITulasian, ataMcgraw Hill Co