Scheme of Examination

Bachelor of Arts (BA)
Three Year Programme (Annual)

2013 -14

BA-I

Paper	**Nomenclature**	**Marks**
	Compulsory Subjects	
BA1001	English	100
BA1002	Hindi	100
Elective Subjects Choose any two of the subjects one from each group:		
Group-I		
BA1003	**History** Option-**1-** History of India (earlier to 1526)	100
BA1004	**Economics** Option-1-Micro Eco. & Indian Economic Problems	100
BA1005	**Public Administration** Elements of Public Administration	100
Group-II		
BA1006	**Political Science** Option-**1-**Political Theory	100
	Mathematics	

BA1007	**Paper-I** Algebra And Trigonometry **Paper-II** Calculus And Ordinary Differential Equation **Paper-III** Vector Analysis And Geometry	35 35 30
BA1008	Sanskrit	100
BA1009	**Qualifying Subject** Environmental Studies	100

BA-II ***2014 -15***

Paper	**Nomenclature**	**Marks**
	Compulsory Subjects	
BA2001	English	100
BA2002	Hindi	100
	Elective Subjects Choose any two of the subjects one from each group:	
	Group-I	
BA2003	**History** Option-**1**-History of India (C.A.D 1526 to 1857)	100
BA2004	**Economics** Option -1-Macro Economics	100

BA2005	**Public Administration** Option-1- Bhartiya Prashashan	100
	Group-II	
BA2006	**Political Science** Option-1- Bhartiya Sarkar & Rajniti	100
BA2007	**Mathematics** **Paper-I** Advance Calculus **Paper-II** Differential Equations and Calculus of Variations **Paper-III** Mechanics	35 35 30
BA2008	**Sanskrit**	100

BA-III ***2015 -16***

Paper	**Nomenclature**	**Marks**
	Compulsory Subjects	
BA3001	English	100
BA3002	Hindi	100
	Elective Subjects Choose any two of the subjects one from each group:	
	Group-I	
	History	

BA3003	Option-2-History of Ancient World	100
BA3004	**Economics** Development & Environmental Economics and International Trade	100
BA3005	**Public Administration** Options-2- Local Govt. and Administration in India	100
	Group-II	
BA3006	**Political Science** Options-1-Comparative Govt. and Politics	100
BA3007	**Mathematics** **Paper-I** Analysis **Paper-II** Abstract Algebra **Paper-III** Programming in C & Numerical Analysis(Theory)	35 35 30
BA3008	**Sanskrit**	100

Important Note: *The Environmental studies is a qualifying paper for all UG Courses i.e BA & B.Com. Students are required to qualify the same, otherwise final result will not be declared and degree will not be awarded.

BACHELOR OF ARTS (BA)

B.A. PART-I

ENGLISH (COMPULSORY)
PAPER CODE: BA1001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions, at least two questions from each section. each question shall carry 20 marks.

Section A

A. Chronicles of Time: An Anthology of Poems ed. by Asha Kadian (Oxford University Press, New Delhi).
The following may be deleted:
i) 'Leisure' by W.H. Davies
ii) The Flute Player of Brindaban 'by Sarojini Naidu
iii) The Soldier' by R. Brooke.
B. The Pointed Vision: An Anthology of Short Stories by Usha Bande and Krishan Gopal. (Oxford University Press,
New Delhi)
C. Ideas Aglow by Dinesh Kumar and V.B. Abrol.
Following essays may be deleted:
i) 'Its Question Time' by Jayant V. Narlikar
ii) An Interview with Christian Barnard' by N. Ram
iii) In humanisation of War by Huek Gutman.

SCHEME OF EXAMINATION

Q1. Explanation with Reference to the Context The candidate will be required to attempt two passages each (with internal choice) one from the book of Poems and the other from the Collection of essays, Ideas Aglow.
5X2=10 Marks

Q2. Short answer type questions on (five questions to be attempted out of the given eight)
OR 5X2=10 Marks
Four short-answer type questions will be set on the prescribed short-stories and four short-answer questions will be set on the prescribed essays. The students will be required to attempt any five out of the given eight questions.

Q3. One essay-type question (with internal choice) will be set on each of the prescribed texts A & B. Students will be required to attempt one question each from both the texts. 6×2=12 Marks

Q4. One essay type question (with internal choice) will be set on the book of essays. 8 Marks

Section B

Text Prescribed: A Remedial English Grammar for Foreign Students by FT. Wood.

The following items may be deleted:
Item Nos.:
8. Transformations
9. Confusion of Adjectives & Adverbs

10. Adverbial use of No, Not and None
11. The Pro word one12
12. Redundant Pronouns & Preposition
13. The use of correlatives.

SCHEME OF EXAMINATION

Q5. tems based on the examples/exercises given in the prescribed text books of Grammar. 12 Marks

Q6. Comprehension Passage (with five questions at the end.) 10 Marks

Q7. Paragraph: The candidate will be required to write a paragraph on any one of the five given topics. 10Marks

Q8. Letter/Application: Students will be asked to write a letter or an application. (The question will carry internal choice) 8 Marks

HINDI (COMPULSORY)

PAPER CODE BA1002

हिन्दी अनिवार्य

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

पाठ्य पुस्तक :

1. 'काव्य शिखर' – प्राचीन एवं मध्ययुगीन काव्य पर आधारित संज्ञक पुस्तक सं. डॉ. नरेश मिश्र, हिन्दी विभागाध्यक्ष म. द. विश्वविद्यालय, रोहतक।
2. ''गद्य–शिखर'' नामक गद्य संकलन सं. हिन्दी विभागाध्यक्ष, कु. विश्वविद्यालय जिसमें पांच कहानियां और पांच निबन्ध संकलित हैं।

निर्देश :–

1. पहला प्रश्न काव्य शिखर नामक काव्य संग्रह से व्याख्या के रूप में होगा। पाठ्यपुस्तक में निर्धारित कवियों में से किन्हीं चार कवियों की चार व्याख्याएं पूछी जाएंगी। परीक्षार्थियों को उनमें से किन्हीं दो की सप्रसंग व्याख्या करनी होगी। प्रत्येक व्याख्या 6 अंक की होगी और पूरा प्रश्न 12 अंकों का हागा। त्र12
2. किन्हीं दो कवियों का परिचय पूछा जाएगा, जिनमें से परीक्षार्थियों को एक का उत्तर देना होगा। इस प्रश्न के लिए 8 अंक निर्धारित हैं। त्र 8
3. निर्धारित कवियों में से किन्हीं दो पर अनुशीलनी में से दो आलोचनात्मक प्रश्न पूछे जाएंगे। परीक्षार्थियों को किसी एक का उत्तर देना होगा। इस प्रश्न के लिए 10 अंक निर्धारित हैं। त्र 10
4. निर्धारित पाठ्य पुस्तक गद्य–शिखर में संकलित निबन्धों और कहानियों में से व्याख्या के लिए दो–दो अवतरण दिए जाएंगे, जिनमें से परीक्षार्थियों को प्रत्येक से एक–एक अवतरण की सप्रसंग व्याख्या करनी होगी। प्रत्येक व्याख्या 6 अंकों की और पूरा प्रश्न 12 अंकों का होगा। त्र 12
5. निर्धारित कहानीकारों और निबन्धकारों में से एक–एक का साहित्यिक परिचय पूछा जाएगा, जिनमें से परीक्षार्थियों को किसी एक का उत्तर देना होगा। इस प्रश्न के लिए 8 अंकों का होगा। त्र 8
6. निर्धारित लेखकों में से किन्हीं दो पर अनुशीलनी में से दो आलोचनात्मक प्रश्न पूछे जाएंगे। परीक्षार्थियों को किसी एक का उत्तर देना होगा। इस प्रश्न के लिए 10 अंक निर्धरित हैं। त्र 10

7. लघूत्तरी प्रश्न द्रुतपाठ में निर्धारित दो कहानीकारों (मोहन राकेश और मालती जोशी) और निबन्धकारों (महावीर प्रसाद द्विवेदी और सरदार पूर्ण सिंह) पर पाठ्य पुस्तक की अनुशीलनी में से ही एक–एक प्रश्न अर्थात चार प्रश्न पूछे जाएंगे, जिनमें से परीक्षार्थियों को किन्हीं तीन प्रश्नों के उत्तर देने होंगे। प्रश्न परिचयात्मक प्रकृति के हागे। प्रत्येक प्रश्न 10 अंको का होगा और पूरा प्रश्न 30 अंकों का होगा। त्र 30
8. अन्तिम प्रश्न काव्य शिखर की अनुशीलनी के व्याकरण पर आधरित होगा, जिसके लिए 10 अंक निर्धारित हैं। इसके अंतर्गत वर्तनी, पर्याय, विलोम, वाक्य के लिए एक शब्द, मुहावरे और लोकोक्ति निर्धारित हैं। इसमें 10 अनिवार्य वस्तुनिष्ठ प्रश्न होंगे। प्रत्येक प्रश्न के लिए चार विकल्प होंगे, जिनमें से एक शुद्ध उत्तर देना होगा। त्र 10

HISTORY
OPTION –I HISTORY OF INDIA (EARLIER TO 1526)
PAPER CODE: BA1003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section I
1. Survey of the sources.
2. Pre historic hunterer -gatherers: Paleolithic culture-sequence and geographical distribution. Mesolithic cultures-distribution
and cultural developments.
3. Concept of the Neolithic-advent of food production.
4. Harappan Civilisation-Origin, extent, urban planning, Nature of Social and economic condition, urban declineand late Harappan culture.
5. Society, Polity, economy, culture and religion as reflected in the vedic literature
6. Social developments-varna, Jati, marriage and property relations.
7. Rise of territorial states.
8. Rise of new religious movements in north India, Doctrines and social dimension of early Buddhism and Jainism.

Section II
1. The Mauryan Empire-State, administration and economy: Ashoka's Dharma-its nature and propagation; Mauryan art and architecture.
2. Post Mauryan period-Kushanas, Satavahanas, Cholas and Pandyas.
3. Sangam Age-Literature, society and culture.
4. Gupta Empire-administration, agrarian and revenue system, and trade; society, art, architecture, literature, science and technology.
5. Status of Women-marriage, property rights, sati, purdas and devadasi system.
6. Post-Gupta period upto 750AD-Pallavas, Chalukyas and vardhanas.
7. Polity and economy C.A.D 750-1200 Gurjara –Pratihara: Palas; Rashtrakuta.

Section III
1. Invasions of Ghaznavids and Ghorids; Causes of the success and their impact.
2. Rise and expansion of Delhi Sultanate: Illutmist, Balban, Allauddin Khilji and Mohammad Tughlaq.
3. Fragmentation and downfall of Sultanate.
4. Society and economy under the Sultanate.
5. Religion and culture; Bhakti and Sufi movements; art, architecture during the Sultanate.

Section IV
Maps
1. Important sites of the Harappan Civilisation.
2. Ports, trading centres and trade routes of Ancient India.
3. Extent of Ashoka's Empire, Pillars and Edicts.
4. Extent of Harsha's Empire.
5. Extent of Allauddin Khalji's Empire.
6. Urban Centres during the Sultanate.

Suggested Reading

H.C. Ray, Chaudhary. Advanced History of India Delhi, 1971 (Hindi Also).
R.S. Tripathi. Ancient India Delhi, 1977 (Hindi also).
H.C. Ray, Chaudhary. Political History of Ancient India, Calcutta, 1963.
A.L. Basham. The Wonder that was India Delhi 1981(Hindi also).
R.C. Majumdar and A.S. The Vakta Gupta Age Delhi 1981(Hindi also).
Allchin, B and Allchin, F.R. Rise of Civilisation in India and Pakistan (Delhi Select Book Service Synidicate, 1983).
Munshi, V.K.M.and R.R. Bhartiya Vidya Bhavan Series-Indian Inheritance, 3 vols (Bombay, Bhartiya Vidya Bhavan, 1965, 1970).
Sharma R.S.Aspects of Political Ideas and Institutions in Ancient India (Delhi, Motilal Bararsidass, 1991) (Revised Edition).
Thapar B.K. Recent Archaeological Discoveries in India (Paris UNESCO, 1985).
Thapar, Romila. A History of India, vol. 1 (Pelican, 1966, Penguin, Harmondsworth).
Gardon Stewart. The Marathas, 1600-1818, The New Cambridge History of India (Delhi, Foundation Books, 1994).
Satish Chandra. Medieval India, From Sultanate to the Mughals (Delhi, Har Anand Publications, 1997).
Verma, H.C. Madhya Kalin Barat 1540-1750, Part-II (Delhi Hindi Directorate, 1983).
Habibula, A.B.M. Foundation of Muslim Rule in India (In Hindi also).
Lal, K.S. Khalji, Vansh Ka Itihas (in Hindi also).
Kanoongo, K.R. Life and Times of Sher Shah Suri (in Hindi also).

ECONOMICS
(OPTION-1-MICRO ECONOMICS AND INDIAN ECONOMIC PROBLEMS)
PAPER CODE: BA1004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit I

Introduction, Nature and scope of economics, choice as an economic problem.
Consumer's Behaviour: Utility- Cardinal and ordinal approaches; Indifference curve;
Consumer's equilibrium (Hicks and Slustsky); Elasticity of demand Price, Income and gross; Consumer's Surplus.
Theory of production Costs; Production decisions, Production function, ISO-quant Law of variable proportions; Returns to scale; Economics of scale, Different concepts of costs and their interrelations.

Unit II

Market structure and commodity pricing; market forms perfect and imperfect markets; Equilibrium of firm perfect competitions,
monopolistic competition, Factor pricing marginal productivity theory of distribution.

Unit III

Basic Features; Problems and planning in India; Characteristics of Indian economy; problems of poverty; inequality and unemployment; objectives of planning in Indian achievements and failures; new economics reforms: A basic idea.

Unit IV

Indian Agriculture, Nature and importance: Trends in agricultural production and productivity, Rural credit, Agricultural marketing.
Industry : industrial development during the planning period; new industrial Policy. Growth and problems of small scale industries.

Suggested Reading

Bach, G.L (1977), Economics, Prentice Hall of India, New Delhi.
Gauio, J.P. and Edward P.L (1996), Micro economics theory, Richard Irwin Home wood.
Handerson J. and R.E. quandt (1900), Microeconomics Theory ; A Mathematical Approach, McGraw Hill, New Delhi.
Heath field and wibe (1907), An introduction to cost and production functions, Macmillan London.
Kouisoyionnis, A (1990), Modern Microeconomics, Macmillan.
Lipsey, R.G and K.A Christal (1999), Principles of Economics, (9th Edition) Oxford Univ Press.
Mansfield. E. (1997), Microeconomics (9th Edition), W.W Norton and Company, New York.
Ray, N.C (1918), an Introduction to Microeconomics, Macmillan Company of India Ltd Delhi.

Raaj, W.J.I (1962), Price Theory, Macmillan and Co. Ltd London.
Datt,R. and KPM Sundharam (2001), Indian Economy S.Chand & Co.
Dhingra I.C. (2001), The Indian Economics ; Envoirnment and policy, Sultan Chand & Sons, New Delhi.
Misra, S.K. and V.K.Puri (2001), Indian Economy- its Development Experience, Himalaya Publishing House Mumbai.

PUBLIC ADMINISTRATION
ELEMENTS OF PUBLIC ADMINISTRATION
PAPER CODE: BA1005

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Organisation, meaning and basis, principles of Organisation; Hierarchy, Span of Control, Decentralization, Supervision and Control, Communication. Public Relations Meaning, Methods and significance; Administrative Law; Delegated Legislation; Administrative Tribunals.
Forms of Administrative Organisation, Department, Public Corporations; Parliamentary and Govt. Control over public Corporations, independent Regulatory Commission; Staff and Line Agencies.
Personnel Administration, Recruitment, Training, Promotion, Public Service Commission, Morale, Joint consultative Machinery (Whitley councils).
Preparation and passing of the Budget, Audit and its Preparation and significance, Parliamentary control over Public Finance. Accountability of Public Administration, Legislative and Judicial. E Governance in Public Administration.

POLITICAL SCIENCE
OPTION 1-POLITICAL THEORY
PAPER CODE: BA1006

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Part-A
Nature and significance of Political Theory
Power and Authority
State: Original and Development
State: Dominant Perspectives
Sovereignty

Part-B
Citizenship, Rights and Liberty
Equality and Justice
Democracy
Development and Welfare State
Theories of Social change

Part-C
Short answer questions, at least five, spread over the entire syllabus.
Objective type (multiple choice) question over the whole syllabus.

Suggested Readings
N.P. Barry, Introduction to Modern Political Theory, London, Macmillan, 1995.
M. Carnoy, The State and Political Theory, Princeton NJ, Princeton University Press, 1984.
G.Catlin, A Study of the Principles of Politics, London and New York, Oxford University Press, 1930.
N.J. Hirschman and C.D. Stefano(eds.), Revisioning the Political Feminist Reconstruction of Tradition concepts in Western

Political Theory, West View Press, Harper Collins, 1996.
D. Heater, Citizenship: The Civic Ideal in World History, Political and Education, London, Orient Longman, 1990.
D. Held, Models of Democracy, Cambridge, Polity Press, 1987, G Mclellan, D Held and S. Hall (eds.), The Idea of the Modern State, Milton Keynes, Open University Press, 1984.
D. Miller, social Justice, Oxford, The Clarendon Press, 1976.
D. Miller, (ed.), Liberty, Oxford, Oxford University Press, 1991.
D. Miller, Citizenship and National Indentities, Cambridge, Polity Press, 2000.
S. Ramaswamy, Political Theory: Ideas and concepts, Delhi Macmillan, 2002.
R.M. Titmuss, Essays on the Welfare State, London, George Allen and Unwin, 1956.
F. Thankurdas. Essays on Political Theory, New Delhi, Gitanjali, 1982.
J. Waldron(ed.), Theories of Rights, New Delhi, Oxford University Press 1984.
S.Wasby, Political Science: The Discipline and its Dimensions, Calcutta, Scientific Book Agency, 1970.

MATHEMATICS
PAPER-I ALGEBRA AND TRIGONOMETRY
PAPER CODE: BA1007

Marks: 35 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section I

Symmetric and Skew symmetric matrices, Hermitian and skew-Hermitian matrices. Elementary operations on matrices. Inverse of a matrix. Linear independence of row and column matrices. Row rank, column rank and rank of a matrix. Equivalence of column and row ranks: "Eigenvaluesr eigenvectors and the characteristic equation of a matrix. (Cayley Hamiltoifthet) fem and its use in finding inverse of a matrix. Applications of matrices to a system of linear (both homogenous and non-homogenous) equations. Theorems on consistency of a system of linear equations.

Section II

Relations between the roots and coefficients of general polynomial equation in one variable. Transformation of equations. Descartes' rule of Signs. Solutions of cubic equations (Cordon method) and Bi quadratic equations (Descartes' and Ferrari Methods).

Section III

Mapping, Equivalence relations and partitions. Congruence modulo. Definition of a group with examples and simple properties. Subgroups. Generation of groups. Cyclic groups. Cost decomposition. Langrange's theorem and its consequences. Fermat's and Euler's theorems. Homomorphism and Isomorphism. Normal Subgroups. Quotient groups. The fundamental theorem of homomorphism. Permutation groups. Even and odd permutations. The altering groups A_n. Cayley's theorem. Introduction to rings, Sub rings, integral domains and fields. Characteristic of a ring.

Section IV

De Moivre's theorem and its applications. Direct and inverse circular and hyperbolic functions. Logarithm of a complex quantity. Expansion of trigonometrically functions. Gregory's series. Summation of series.

Suggested Reading

1. L.N. Herstein Topics in Algebra, Wiley Eastern Ltd. New Delhi, 1975.
2. K.B. Datta, Matrix and Linear Algebra, Prentice Hall of India Pvt. Ltd. New Delhi, 2002.

3. P.B. Bhattacharya, S.K. Jain and S.R*. Nagpaul, First Course in Linear Algebra, Wiley Eastern, New Delhi, 1983.'
4. S.K. Jain, A. Gunawardena and P.B. Bhattacharya, Basic Linear Algebra with MAATLAB., Key College Publishing(Springer-
Verlag),2001.
5. S.L. Loney, Plane Trigonometry Part II, Macmillan and Company, London.
6. Shanti Narayan, A text Books of Matrics, S. Chand & Co., New Delhi.
7. Peter V. O'Neil, Advanced Engineering Mathematics, ITPCompany, USA.
8. Alan Jafferey, Advanced Engineering Mathematics, Harcourt/Academic Press, USA.
9. K.A. Stroud, Advanced Engineering Mathematics, Industrial Press, Inc., New York.

10. K.A. Stroud, Enginnering Mathematics (Indian Edition),
11. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley and Sons.
12. Ayers, Modern abstract Algebra, Schaum Outline Series, Tata McGraw Hill.
13. Baumslag, Group Theory, Schaum Outline Series, Tata McGraw Hill.
14. Jai Singh, Abstract Algebra, Schaum Outline Series, Tata McGraw Hill.
15. Lipschutz, 3000 solved problems in Linear Algebra, Schaum Outline Series, Tata McGraw Hill.
16. Lipschutz, Linear Algebra, Schaum Outline Series, Tata McGraw Hill.
17. Moyer, Trigonmetry, Schaum Outline Series, Tata McGraw Hill.
18. Rich, Eiementry Algebra, Schaum Outline Series, Tata McGraw Hill.

Paper-II CALCULUS AND ORDINARY DIFFERENTIAL EQUATION
PAPER CODE: BA1007

Marks: 35 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section I
Successive differentiation. Leibnitz theorem. Maciaurin and Taylor series expansions. Asymptotes. Curvature. Tests for concavity and convexity. Points of inflexion. Multiple points. Tracing of curves in Cartesian and polar coordinates.

Section II
Reduction formulae. Quadrature. Rectification. 'Volumes and surfaces of solids of revolution.

Section III
Exact differential equations. First order higher degree j equations solvable for x, y, p. clairaut's form and singular solutions, Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients: Homogeneous linear ordinary differential equations. Total/differential equations.

Section IV
Linear differential equations of second order, *I* Transformation of the equation by changing-the dependent variable/the independent variable, reduction of order. Method of variation of parameters and unknown coefficients, Ordinary simultaneous differential equations.

Books Recommended
1. Murray R. Spiegel, Theory and Problems of Advanced.; Calculus, Schaum's outline series, Tata McGraw Hill.
2. P.K. Jain and S.K. Kaushik, An Introduction tp Real Analysis, i S. Chand & Co. New Delhi, 2000.
3. GT. Simmons, Differential Equations, Tata McGraw, i Hill, 1972.
4. S.L. Ross, Differential Equations, John Wiley and Sons (Student Edition).
5. H.T. H. Piaggio, Elementary Treatise on Differential *Equations* and their Applications, C.B.S. Publisher and; Distributors,
Delhi, 1985.
6. Peter V. O'Neil, Advanced Engineering Mathematics, ITPI Company, USA.
7. Alan Jafferey, Advanced Engineering Mathematics, Harcourt/ Academic Press, USA.
8. K.A. Stroud, Advanced Engineering Mathematics, Industrial Press, inc., New York.
9. K.A. Stroud, Engineering Mathematics (Indian .Edition), Replika Press Pvt. Ltd.
10. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley and Sons, 1999.
11. Khalil Ahmed, Text Book of Integral Calculus and Differential Equations, Anamaya Publishers, New Delhi.
12. Khalil Ahmed, Text Book of Differential Calculus, Anamaya Publishers, New Delhi.
13. Ayres, Calculus, Schaum Outline Series, Tata McGraw Hill.
14. Bronson, Theory and Problems of Differential Equations, Schaum Outline Series, Tata McGraw Hill.

PAPER -III VECTOR ANALYSIS AND GEOMETRY
PAPER CODE: BA1007

Marks: 30 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section I
Scalar and vector product of three vectors. Product of four vectors. Reciprocal Vectors. Vector Differentiation. Gradient, Divergence and Curl.

Section II
Vector integration. Theorems of Gauss, Green, Stokes and problems based on these.

Section III
General equation of second degree. Tracing of conies. System of conies. Confocal Conies. Polar equation of conic.

Section IV
General coincides, Paranoids. Plane...Sections of Coincides. Generating lines. Confocal coincides. Reduction -of Second Degree equation. Sphere, Gone, Cylinder.

संस्कृत ऐच्छिक

PAPER CODE BA-1008

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I संस्कृत वाग्व्यवहारः **अंक 10**

एकक–1 संस्कृत व्यवहार साहसी (प्रकाशक संस्कृत भारती, माता मन्दिर गली, झण्डेवालान, नई दिल्ली) पुस्तक में से 1 से 8 विषयों तक संस्कृत में सरल प्रश्नोत्तर रूप में लिखित परीक्षा (शिष्टाचार, मेलनम्, सरलवाक्यानि, सामान्यवाक्यानि मित्रा मिलनम्, यात्राा, प्रवासतः प्रतिनिर्वतनम्, छात्राः)

Unit-II संस्कृत ग्रन्थानुशीलनम् **अंक 30**

एकक–2 (क) हितोपदोशः (मित्रा लाभः)

(ख) दूतवाक्यम् (भासविरचितम्)

(ग) शुकनासोपदेशु (कादम्बरीतः)

(पाठ्यांशो की व्याख्या व सार आदि)

Unit-III संस्कृत व्याकरणम् **अंक 30**

एकक–3 (क) शब्दरूप– राम, कवि, भानु, पितृ, लता, भति, नदी, धेनु, वधू, मातृ, फल, वारि, मधु, आत्मन्, दण्डिन्, वाच्, सरित्, सर्व, तद्, एतद्, यद्, किम्, इदम् (तीन लिंगों में), अस्मद्, युज्मद्, एक, द्वि, त्रिा, चतुरः, प× चन् (तीनों लिंगों में)

(ख) धातुरूप परस्मैपदम– भू, पठ्, हस्, नम्, गम्, अस्, हन, क्रुध, नशा्, नृत्, अद्, इष्, पृच्छ, चिन्त्।

आत्मनेपदम्– सेव, लभ्, रुच्, मुद्, याच्।

उभयपदम् – कृ, नी, हृ, भज्, पच।

(ग) सन्धि – अच् सन्धि, हल सन्धि, विसर्ग सन्धि।

Unit-IV छन्द = 16

एकक–4 अतुष्टप, आर्या, इन्द्रवज्रा, उपेन्द्रवज्रा, उपजाति, भालिनी, स्रग्धरा, वशस्थ, शिखरिणी, मन्दाक्रान्ता, वसन्ततिलका, शार्दूलविक्रीडितम्

Unit-V अनुवाद कण्ठस्थश्लोकाश्च = 14

एकक–5 (क) हिन्दी से संस्कृत में सरल अनुवाद

(ख) कण्ठस्थ चार श्लोकों का शुद्ध लेखन

(प्रश्न पत्रा में छपे श्लोकों से भिन्न)

QUALIFYING SUBJECT
ENVIRONMENTAL STUDIES
PAPER CODE: BA1009

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit I

The Multidisciplinary nature of environmental studies. Definition, scope and importance. Need for Public awareness

Unit II Natural Resources

Renewable and non-renewable resources:
Natural resources and associated problems:
Forest resources : Use and over-exploitation : deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams benefits & problems,
Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
Food resources: World food problems, changes, caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
Energy resources : Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Case studies. Land resources : Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Role of and individual in conservation of natural resources.
Equitable use of resources for sustainable life styles.

Unit III Ecosystems

Concept of an ecosystem.
Structure and function of an ecosystem.
Producers, consumers and decomposers.
Energy flow in the ecosystem.

- Ecological succession.
- Food chains, food webs and ecological pyramids,
- Introduction, types, characteristic features, structure and function of the following ecosystem :

a. Forest ecosystem.
b. Grassland ecosystem.
c. Desert ecosystem.
d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

Unit IV Biodiversity and Its Conservation

- Introduction - Definition: Genetic, species and ecosystem diversity.
- Biogeographically classification of India.
- Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
- Biodiversity at global, National and local levels.

- India as a mega-diversity nation.
- Hot-spots of biodiversity.
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.
- Endangered and endemic species of India.
- Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity. (8 lectures)

Unit V Environmental Pollution

Definition, causes, effects and control measures of:
(a) Air pollution
(b) Water pollution
(c) Soil pollution
(d) Marine pollution
(e) Noise pollution
(f) Thermal pollution
(g) Nuclear hazards
Solid waster management: Causes, effects and control measures of urban and industrial wastes.
Role of an individual in prevention of pollution.
Pollution case studies Disaster management: floods, earthquake, cyclone and landslides.

Unit VI Social Issues and the Environment

- From unsustainable to sustainable development.
- Urban problems related to energy.
- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people: its problems and concerns, Case studies.
- Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, Case studies.
- Wasteland reclamation.
- Consumerism and waste products.
- Environment Protection Act.
- Air (Prevention and Control of Pollution) Act.
- Water (Prevention and control of Pollution) Act.
- Wildlife Protection Act.
- Forest conservation Act.
- Issues involved in enforcement of environmental legislation.
- Public awareness.

Unit VII Human population and the Environment

Population growth, variation among nations. Population explosion - Family Welfare Programme. Environment and human health. Human Rights. Value Education.

– HIV/AIDS.
– Woman and Child Welfare.
Role of Information Technology in Environment and human health.
Case Studies.

Unit VIII Field Work

- Visit to a local area to document environmental assets river/forest/grassland/hill/mountain.
- Visit to a local polluted site-urban/Rural/industrial/ Agricultural.
- Study of common plants, insects, birds.
- Study of simple ecosystems - pond, river, hill slopes, etc.

References

1. Agarwal, K.C. 2001, Environmental Biology, Nidi Pub. Ltd. Bikaner.
2. Bharucha, Frach, The Biodiversity of India, Mapin Publishing Pvt: Ltd. Ahmedabad 380013, India, Email: mapin(g)jcenet.net (R).
3. Brunner R.C. 1989, Hazardous Waste Incineration, Mc.Graw Hill Inc. 480p.
4. Clark R.S., Marine Pollution, Slanderson Press Oxford (TB).
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6. De A.K. Environmental Chemistry, Wiley Eastern Ltd.
7. Down to Earth, Centre for Science and Environment (R).
8. Gleick, H.P., 1993. Water in crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env.

Institute. Oxford Univ. Press. 473p.
9. Hawkins R.E, Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay. (R)
10. Heywood, V.H. & Watson, R.T 1995. Global Biodiversity Assessment. Cambridge Uni.
11. Jadtrav, H and Bhosale.-VM-. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284p.
12. Mckinney, M.L. and Schoch, RM 1996. Environmental Science Systems & Solutions, Web enhanced edition. 639p.
13. Mhaskar A.K., Matter Hazardous, Tekchno-Science Publications (TB).
14. Miller T.G. Jr. Environmental Sciences, Wadsworth Publishing Co. (TB).
15. Odum, E.P. 1971. Fundamentals of Ecology. W.B. Saunders Co. USA, 574p.
16. Rao M.N. and Datta, A.K; 1987. Waste Water Treatment. Oxford & IBH Publ. Co: Pvt. Ltd.
17. Sharma, B.K. 2001, Environmental Chemistry, Goel Publication House, Meerut.
18. Survey of the Environment, The Hindu (M).
19. Townsend C, Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (TB).
20. Trivedi R.K., Handbook of Environmental Laws, Rules, Guidelines, Compliances and Standards, Vol. I and II Enviro Media(R). :
21. Trivedi R.K. and P.K. Goel, Introduction to air pollution, Techno Science Publication (TB).
22. Wagner K.D., 1998. Environmental Management, W.B. Saunders Co. Philadelphia, USA.
23. A text book environmental education G.V.S. Publishers by Dr. J.P Yadav.

B.A. PART-II
ENGLISH (COMPULSORY)
PAPER CODE: BA2001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions, at least two questions from each section. each question shall carry 20 marks.

Section A

Text Prescribe

1. An Anthology of Poems edited by Dr. S.S. Sangwan published by Oxford University Press, New Delhi.
2. An Anthology of One-Act Plays edited by Dr. S.K. Sharma, published by Oxford University, Press, New Delhi.
3. Selected episodes form Mahabharata by C. Raja Qojmlachari, Published by Bharatiya Vidya Bhavan Bombay
4. The first 63 chapters from episode "Ganapti", "The Scribe" to" Yudhistra Seeks Benediction" are prescribed for study.
5. A text book of Grammar written by Sh. Inderjit Kumar of G.M.N. College, Ambala Cantt and Dr. Sanjay Kumar, Reader and Head, Ch. Devi Lai University, Sirsa Published by Kurukshetra University, Kurukshetra.

SCHEME OF EXAMINATION

Q1. Explanation with reference to the context. Candidate will be required to attempt two passages, one each from the book of poems and the book of one act plays. The passages will have internal choice. 10 Marks

Q2. Short-answer type questions. Four short-answer type questions will be set on the prescribed poems and four short-answer type questions will be set on the prescribed book on fiction. The

students will be required to attempt five questions out of given eight questions selecting at least two from each text (i.e. book of Poems and Books of Fiction). 10 Marks

Q3. One essay-type question (with internal choice) will be set on each of the prescribed book of poems and one-act plays, students will be required to attempt one question each from both the texts. 10 Mmarks

Q4. One essay-type question (with internal choice) will be set on the book of Fiction. 10 Marks

SCHEME OF EXAMINATION

Q5. Questions on Grammar on the prescribed items (use of Tenses in Communicative situations, Subject-verb concord, active and passive voice, narration, common errors, word power, vocabulary, idioms and phrases) based on prescribed text-book of Grammar but not necessary the same as those given in the textbook. 14 Marks

Q6 Questions on the following items in the prescribed hook of Grammar,
a) Transcription of simple words, listed in the text book *of* Grammar, The students will be required to transcribe 10 words out of given 15 words from the text book. 8 Marks

Q7 Comprehension passage.(with five questions at the end) 8 Marks

Q8 Translation (from English to Hindi, of a passage consisting of 9 to 10 sentences.) 10 Marks

हिन्दी अनिवार्य
PAPER CODE: BA2002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

पाठ्य पुस्तक / पाठ्य विषय

1. अभिनव काव्य गरिमा स. डॉ. राम नरेश मिश्र, प्रकाशक खाटू श्याम प्रकाशन, रोहतक, दिल्ली।
2. ''अभिनव गद्य गरिमा'' कुरूक्षेत्रा विश्वविद्यालय।
3. अंधेर नगरी–भारतेन्दु हरिश्चन्द्र।
4. जहाज का पंछी (संक्षिप्त संस्करण) इलाचन्द जोशी।
5. हिंदी साहित्य का इतिहास (आधुनिक काल)।

निर्देश :–

1. काव्य पुस्तक से व्याख्या के लिए चार पद्यावरण पूछे जाएंगे जिनमें से परीक्षार्थियों को दो की व्याख्या करनी होगी। प्रत्येक व्याख्या 9 अंकों की होगी। पूरा प्रश्न 18 अंकों का होगा। त्र18
2. काव्य पुस्तक से संबंधित किन्हीं तीन कवियों का साहित्यक परिचय पूछा जाएगा जिनमें से परीक्षार्थियों को किसी एक का उत्तर देना होगा। यह प्रश्न 10 अंकों का होगा। त्र 10

3. अंधेर नगरी से चार लघूत्तरी प्रश्न पूछे जाएंगे जिनमें से परीक्षार्थिया को दो प्रश्नों के उत्तर देने होगों। प्रत्येक प्रश्न 10 अंकों का होगा। त्र 10

4. ''जहाज का पंछी'' उपन्यास से चार आलोचनात्मक प्रश्न पूछे जाएंगे। जिनमें से परीक्षार्थियों को 2 प्रश्नों के उत्तर देने होगें। प्रत्येक प्रश्न 9 अंकों का होगा। त्र18

5. ''अभिनव गद्य गरिमा'' से चार गद्यांश पूछे जाएंगे जिनमें से परीक्षार्थी को दो की सप्रसंग व्याख्या करनी होगी। प्रत्येक व्याख्या 5 अंकों की होगी। त्र 10

5।ण ''अभिनव गद्य गरिमा'' से चार लघुत्तरी प्रश्न पूछे जाएंगे। जिनमें से परीक्षार्थियों को किन्हीं दो प्रश्न के उत्तर देने होगें। प्रत्यक प्रश्न 5 अंकों का होगा। त्र 10

6. आधुनिक हिन्दी साहित्य के इतिहास से इस प्रश्न अति लघूत्तरी पूछे जाएंगे जिनमें से परीक्षार्थियों को 8 प्रश्नों का उत्तर देना होगा। प्रत्येक का उत्तर लगभग 50 शब्दों में देना होगा । प्रत्येक प्रश्न 3 अंकों का होगा । पूरा प्रश्न 24 अंकों का होगा । त्र 24

HISTORY
OPTION-I- HISTORY OF INDIA (C.A.D 1526 to1857)
PAPER CODE: BA2003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section I

1. Mughal Empire till 1707-Relations with Rajputs, Sikhs, deccan Kingdom, Maraths, Parsia and Central Asia.
2. Mughal administration and institutions : administrative structure, land revenue system : manasabdari and jagirdari.

Section II

1. Economic and technological development : agriculture, industry, trade, commerce and urban centers.
2. Society under Mughals (i) Social classes-ulema; nobility, Zamindars, peasantry, artisans, (ii) Status of Women.
3. Art and architecture under Mughals.
4. Religion and Culture : Religious policies of Akbar and Aurangzeb, Sufism; Bhakti Movement and Composite Culture.
5. Decline and disintegration of Mughal Empire.

Section III

1. Advent of European powers : Portuguese; French; and English.
2. Expansion and Consolidation of British rules: Occupation of Bengal, Warnen Hastings, Lord Wellesley, Lord Hastings, Lord Dalhousis.
3. Social Changes : Spread of Western education upto 1854: Raja Ram Mohan Rai and early social reformers; development of means of communications.
4. Economic Changes : Land revenue settlement-Permanent Settlement, Rayatwari and Mahalwari; decline of cottage industry and industrialization.
5. Early resistance against Company's rule; Revolt of 1857 Causes; nature and results.

Section IV

Maps

1. Political Condition of India in 1526.
2. Mughal Empire at the death of Akbar (1605).
3. Indian Powers and Kingdoms around 1765.
4. Centres of early resistance to Company's Rule.
5. Major Centres of Revolt of 1857-58.
6. Areas and Centres of Socio-religious movements in early 19th century India.

Section V

Objective type questions.

Suggested Readings

Verma. H.C. Madhyakaleen Bharat-Vol-II (154)

ECONOMICS
OPTION-1- MACRO ECONOMICS
PAPER CODE: BA2004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit I

National income : Concepts and measurement, Say's Law of Market & the classical theory of employment, Keynes objection
to the classics theory; Keynesian employment theory, consumption function Autonomous and induced investment; Investment
multiplier, Theories of investment, MEC and accelerator.

Unit II

Trade Cycle theories-Samueison and Wicks, Control of trade cycles Growth models Harrod-Domar model and Solow model.

Unit III

Money-meaning functions and significance, Quantity theory of money Keynesian theory of money, Inflation doman-pull and
cost-push; effect and control of infection; Functions of commercial banks and Central Bank; Credit and control; Recent reforms in banking sector in India.

Unit IV

Nature and Scope of Public Finance; The principle of maximum social advantage; Classification, canons and effects of Public expenditure Classification, cannons and effects of taxation; Impact and incident taxes; Characteristics of a good tax system, Recent tax reforms India-an overview; Sources and effects of public debt; Methods of del redemption; Recommendations of Tenth Finance Commission.

Reading list

Ackley, G (1976), Macroeconomics, Theory and Policy. Macmillan Publishing Company New York.
Day, A.C.I., (I960), Outline of Monetary Economics, Oxford Universil Press, Oxford.
Gupta, S.B (1994), Monetary Economics, S. Chand and Co., Delhi. -
Heijora, B.J. and F.V. Pleg (2001), Foundation of Moder, Macroeconomic, Oxford University Press, Oxford.
Lewis, M.K. and P.D. Mizan (2000), Monetary Economics, Oxford University Press, New Delhi.
Shapiro, E (1996), Macroeconomic Analysis; Galgotia Publications, New Delhi.
Ackley, C (1996), Macroeconomic Theory and Policy Macmillan Publishing Co. New York.
Bhargava, R.N. (1971), The Theory and Working of Union Finance I. India Chaitanya Publishing House, Allahabad, Gupta, S.B.(1994).

PUBLIC ADMINISTRATION
OPTION- 1-BHARTIYA PRASHASHAN
PAPER CODE: BA2005

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Feature of Indian administration; its role in the context of democratic system and socio-economic development. Centre State Relationship-Administration and Financial relations.

Role of the president, Prime Minister and cabinet in Indian Administration, cabinet Secretarial, Organisation and functions of Union Minister and State Secretariat, role of the Chief Secretary in State Administration.

Preparation of the Indian Budget, its enactment Parliamentary control over Public finance in India. Role of comptroller and Auditor-General over financial Administration, composition and functions of Public Accounts

Committee and Estimate Committee at the Centre. Civil Services: Recruitment, training, promotion, discipline, morale, Union Public Service Commission. District Administration: Its Features, role and position of the

Deputy Commissioner and Superintendent of Police in District Administration. Accountability of Indian Administration to the Parliament and Judiciary; administration and citized, Lokpal and Lok- Ayukt.

POLITICAL SCIENCE
OPTION-1- BHARTIYA SARKAR AND RAJNITI
PAPER CODE: BA2006

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Part-A

The Making of India's Constitution and its sources. Basic features of India's Constitution.
Preamble, Fundamental Rights and Duties and the Directive Principles of State Policy.
Union Government: President, Parliament, Cabinet and Prime Minister.

Part-B

Centre-State Relations
Supreme Court and the Constitutional Process.
Political Parties : National and Regional Parties.
The Election Commission Electoral Reforms. Major issues in Indian Political, Caste, religion. Language Region, Poverty-Alleviation.

Part-C

Short answer questions, at least five, spread over the entire syllabus. Objective type (multiple choice) questions spread over the whole syllabus.

Suggested Readings

G. Austin, The Indian Constitution: Comer Stone of Nation, Oxford, Oxford University Press, 1966.
G. Austin, Working a Democratic Constitution : The Indian Experience, Delhi, Oxford University Press 2000.
D.D. Basu, An Introduction to the Constitution of India, New Delhi, Prentice Hall, 1994.
D.D. Basu and B. Paarekh (ed). Crisis and Change in contemporary India, New Delhi, Sange, 1994.
C.R Bhambhri, The Indian State: Fifty years. New Delhi, Shipra, 1997.
P. Brass, Politics of India Since Independence Hyderabad, Orient Longman, 1990.
P. Brass, Language, Region and Politics in North India London, Cambridge University Press, 1974.
A. Chanda, Federalism in India: A Study of Union-State Relations, London, George Allen & Unwin, 1965.
S. Cambridge and J. Harriss, Reinventing India: Liberalization Hindu Nationalism and Popular Democracy, Delhi, Oxford University Press, 2001.
B.L. Fadia, State Politics in India, 2 vols, New Delhi, Rediant Publishers,1984.
R.L. Hardgrave, India: Government and Politics in a Developing Nations, New York, Harcourt, Braqce and World, 1965.
N.G. Jayal (ed.). Democracy in India, Delhi, Oxford University Press, 2001.
S. Kaushik (ed.) Indian Government aad Politics, Delhi University, Directorate of Hindi Implementation, 1990.
A. Kohli, Democracy and Discontent: India's Growing Crisis of Govemability, Cambridge, Cambridge University Press, 1991.
R. Kothari, Politics in India, New Delhi, Orient Longman, 1970.
R. Kothari, Party System and Election Studies, Bombay, Asia Publishing House 1967.
W.H. Morris Jones, Government and Politics in India, Delhi, BI Publications, 1974.
A.C.Noorani, Constitutional Questions in India : The President, Parhament and the States, Delhi, Oxford University Press, 2000.

M. V. Pylee, An Introduction to the constitution of India, New Delhi, 1998.
A. Ray, Tension Areas in India's Federal System, Calcutta, The World Press, 1970.
N.C. Sahni (ed.). Coalition Politics in India, Jullundher, New Academic Publishing Company, 1971.
J.R. Siwach, Dynamics of Indian Government & Politics New Delhi,Sterting Publishers, 1985.
R. Thakur, The Government & Politics of India, London, Macmillan,1995.

MATHEMATICS
PAPER-I -ADVANCE CALCULUS
PAPER CODE: BA2007

Marks: 35 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section I

Definition of a sequence. Theorems on limits of sequences. Bounded and monotonic sequences. Cauchy's convergence criterion. Sequential continuity. Properties of continuous functions. Uniform continuity. Series of non-negative terms. Comparison tests. Cauchy's integral test. Ratio tests. Raabe's logarithmic, de Morgan and Bertrand's tests, Gauss test. Alternating series Laibnitz's Theorem. Absoiute and conditional convergence.

Section II

Mean value theorems and their geometrical interpretations.Darboux's intermediate value theorem for derivatives. Taylor's theorem with various forms of reminders. Limit and continuity of functions of two variables. Partial differentiation, Change of variables. Eider's theorem on homogeneous | functions. Taylors theorem for functions of two variable. Jacobians. | Maxima, minima and saddle points of functions of two variables. legrange's multiplier method.

Section III

Envelopes, Evolutes, Indeterminate forms.

Section IV

Beta and Gamma functions. Double and triple integrals. Dirichlets' integrals. Change of order of integration in double integrals.

Books Recommended

1. T. M, Apostol, Mathematical Analysis, Narosa Publishing House, New Delhi. 1985.
2. R.R. Goldberg, Real Analysis, Oxford & I.B.H. Publishing Co., New Delhi, 1970.
3. D. Soma Sundaram and B. Choudhary, A First course in r Mathematical Analysis. Narosa Publishing House, New Delhi, i 1997.
4. Murray R. Spiegel, Theory and Problems of Advanced Calculus. Schaum Publishing Co. New York.
5. S.C. Malik, Mathematical Analysis, Wiley Eastern Ltd., New Delhi.
6. Earl D. Rainville Infinite Series. The Macmillian Company, New York.
7. Shanti Narayan. A Course of Mathematical Analysis. S. Chand and Company, New Delhi.
8. Avanced Engineering Mathematics, ITP : Company, USA
9. Alan Jafferey, Advanced Engineering Mathematics, Harcourt/ ; Academic Press, USA.
10. K.A. Stround, Advanced Engineering Mathematics, Industrial K.A. Stround, Engineering Mathematics (Indian Edition)., Replika Press Pvt. Ltd.
11. Erwin Kreyszig, Advanced Engineering Mathematics John Wiley and Sons.
12. Klialil Ahmed, Text Book of Differential Calculus, Anamaya Publishers, New Delhi.
13. Wrede, Advanced Calculus, Schaum Outline Series, Tata McGraw Hill, New Delhi.

PAPER-II DIFFERENTIAL EQUATIONS AND CALCULUS OF VARIATIONS
PAPER CODE: BA2007

Marks: 35 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section I
Series solutions of differential equations-Power series method, Bessel, Legendre and Hyper geometric equations. Bessel, Legendre and Hyper geometric functions and their properties, recurrence and generating relations. Orthogonally of Bessel functions and Legendre polynomials.

Section II
Laplace Transformation-Linearity of the Laplace transformation. Existence theorem for Laplace transforms. Laplace transforms of derivatives and integrals. Shifting theorems. Differentiation and integration of transforms. Convolution theorem. Solution of differential equations and system of differential equations using the Laplace transformation, Fourier transforms and their properties, and their application to solutions of differential equations.

Section III
Partial differential equations of the first order La n grange's Solution. Some special types of equations which can be solvedeasily by methods other than the general method. Charpit's general method of solution and its special cases. Partial differential equations of second and higher orders. Classification of linear differential equation of second order. Homogeneous and non-homogeneous equation with constant coefficients. Partial differential equations reducible to equation with constant coefficients.

Section IV
Curves with torsion, principal normal, osculating circle, binomial, Serret-Frenet formulae, locus of centre of curvature, spherical curvature, surfaces, envelopes, edge of regression, fundamental magnitudes of the first order.

Books Recommended

1. D.A. Murry, Introductory Course on Differential Equations, Orient Longman, (India), 1967.
2. IN. Sneddon, Elements of Partial Differential Equations, McGraw Hill Book Company, 1988.
3. Frank Ayres, Theory and Problems of differential Equations, McGraw Hill Book Company, 1972.
4. SX. Ross, Differential Equations, John Wiley and Sons (Student Edition).
5. Peter V.O.'Neii, Advanced Engineering Mathematics, ITP Company,USA. .
6. Alan Jafferey. Advanced Engineering Mathematics, Harcourt Academic Press, USA.
7. K. A. Stroud, Advanced Engineering Mathematics, Industrial Press, Inc., New York.
8. K.A. Stroud, Engineering Mathematics (Indian Edition), Replika Press Pvt. Ltd.
9. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley and Sons.
10. C.E. Weatherbiirn differential Geometry, ELBS.
11. Bronson, Theory and Problems of differential Equations, Schaum Outline Series, Tata McGraw Hill, New Delhi.
12. Duchateau, Partial Differential Equations, Schaum Outline series, Tata McGraw Hill, New Delhi.
13. Lipsehutz, Differential Geometry, Schaum Outline Senes, Tata McGraw Hill, New Delhi.
14. Spiegel, Lapalce Transforms, Schaum Outline Senes, Tata McGraw Hill, New Delhi.
15. Spiegel, Theory and Problem of fourier analysis with Applications to Boundary Value Problems, Schaun> Outline Series, Tata McGraw Hill, New Delhi.

PAPER-III MECHANICS
PAPER CODE: BA2007

Marks: 30 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section I
Conditions of equilibrium of Coplanar forces. Virtual work in two dimensions. Proof of principle of virtual work and its

converse for coplanar forces. Forces which may be omitted in forming the Equation of virtual work.

Section II

Forces in three dimensions. Stable and unstable equilibrium.

Section III

Velocities and accelerations along radial and transverse directions and along tangential and normal directions. Simple harmonic
motion. Elastic strings. Motion on smooth and rough plane curve s Motion in a resisting medium. Motion of particles of varying mass.

Section IV

Central Orbits, Kepler's laws of motion. Motion of a particle it-three dimensions. Acceleration in terms of different coordinate
system

Books Recommended

1. S.L. Loney, Statics-Macmillan Company, London.
2. S.L. Loney, An Elementary Treatise on the Dynamics of Particle and Rigid bodies. Cambridge University Press. 1956
3. E. Chorlton, Dynamics, CJ3S Publishers, New Delhi.
4. Peter V.O.'Neil, Advanced Engineering Mathematics, 1TP Company, USA.
5. Alan Jafferey, Advanced Engineering Mathematics, Harcourt/Academic Press, USA.
6. C. A. Stroud, Advanced Engineering Mathematics, Industrial Press. Inc, New York,
7. C.A. Stroud, Engineering Mathematics (Indian Edition), Replika Press Pvt. Ltd.
8. Erwin Kreyszig, Advanced Engineering Mathematics. John Wiley and Sons

संस्कृत

PAPER CODE: BA2008

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I

क) संस्कृत व्याकरणः– **= 10**

संस्कृत व्यवहार साहस्त्री (प्रकाशक संस्कृत भारती, माता मंदिर गली झण्डेवालन नई दिल्ली) पुस्तक में से 6 से 16 विषयों तक संस्कृत मे सरल प्रश्नोत्तर रूप लिखित परीक्षा (6 परीक्षा, 10 चलविम्, शिलका, 12 स्त्रायः, 13 वाक्य, 14 वेश भषणति, 15 काषलय, स्वस्थम्)

Unit-II

एकक–2 संस्कृत ग्रन्थानुशलम् **= 30**

क) रामायणम् (बालकाण्डम् प्रथम अध्याय)

ख) श्रीमद्भागवद्गीता (द्वितीय अध्याय)

ग) रघुवंशम (द्वितीय, सर्ग)

श्लोकों की व्याख्या व आलोचना प्रश्न, सार आदि)

Unit-III

एकक–3 संस्कृत व्याकरणम् **= 25**

क) समास–अव्यीभाव, कर्मधरय, द्वन्द्व, बहुव्रीहि

ख) वाच्य–कर्त्तृवाच्य, कर्मवाच्य, भाववाच्य आदि।

ग) कृत्प्रत्यय–कत्वा, तुमुन, व्यचत्, क्त, क्तवतु, शनृशावच, कृत्यत्, अनीयर।

घ) नद्वेत प्रत्यय–न्युत्इति, ठक्, त्व, तल्, छ

ङ) जंत रूप व संस्कृत रूप–भु, पठ्, गम्, पा, लिख, श्रृष्ट,
मृ, दा, स्था, हन् धातुओं के लट् लकार, प्रथम पुरूष एकवचन में

Unit-IV

एकक–4 लघु सिद्धांत कौगुदी **= 15**

(प्रत्याहार सूत्रा तथा संज्ञा प्रकारण सोदाहरण सूत्रा व्याख्या)

Unit-V

एकक–5 अनुवाद, पत्रा लेखनम् **= 20**

1. हिन्दी से संस्कृत में सरल अनुवाद
2. सरल विषयों पर संस्कृत में पत्रा लेखन।

B.A. PART III
ENGLISH (COMPULSORY)
PAPER CODE: BA3001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions, at least two questions from each section. each question shall carry 20 marks.

Section A

1. POETRY: The Eternal Muse edited by Dr. Brajesh Sawhney,Reader. Dept. of English, K.U.K., and Neena Malhotra, Head, Dept.of English, S.D. College, Ambala Cantt.
2. PLAY : Macbeth by william Shakespeare.

Scheme of Examination

Q1 (a) One passage (with internal choice for explanation with reference to. the context from **The Eternal Muse** will be set.
(b) Similarly, there will be one passage (with internal choice) for explanation with reference to the context from Macbeth. 10 Marks

Q2. Two short questions (with internal choice) each on Poetry and the Play requiring critical understanding of the poems and the play. 10 Marks

Q3. One essay-type questions (with internal choice) on the book of poems, requiring first hand appreciation of the poems. 10Marks
Q4. *One* essay-type question (with internal choice) on the play requiring first-hand-appreciable of the text, Includingappreciation of theme/characters/ plot. 10Marks

Section B
PRESCRIBED BOOKS

1. A Text book of English Grammer and Composition edited by (i) Dr. S.C. Sharma, Head Dept. of English, University College, kurukshetra, (ii) Sh. Shivnarain, Sr. Lecturer in English, University College, Kurukshetra, Dr. Gulab and Mr, Pankaj of Hindu College, Sonepat.

The text book of Grammar will focus on the following items:

a) Essay : 400 words 8 Marks

b) Precis 8 Marks

c) Vocabulary-Synonyms, Antonyms , One Word Substitution 16Marks

d) Correction of incorrect sentences/Do as directed 8 Marks

2. The spectrum of life: A Selection of Modern Essays by Late Dr. M.K. Bhatnagar, Ex Prof. Dept. of English M.D. University, Rohtak

SCHEME OF EXAMINATION

Q5. The Students shall be required to attempt an essay of approximately 400 words, on any one topic out of the four given in the question paper. The topics may be of descriptive or general nature. 8 Marks

Q6. Precis of a given passage (with internal choice) 8 Marks

Q7. Grammar (vocabulary; synonyms, Antonyms, one-word-substitution and correction of incorrect sentences, (including items covered in the exercise contained in the book of essays). 16 Marks

Q8. One essay type question with internal choice on the Spectrum of life : A Selection of Modern Essays. 8 Marks

हिन्दी (अनिवार्य)

PAPER CODE: BA3002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

पाठ्य–पुस्तक विषय

1. हरियाणा लोकधारा : सम्पादक डॉ0 मीरा गौतम प्रोफेसर हिन्दी विभाग, कुरूक्षेत्रा विश्वविद्यालय, कुरूक्षेत्रा।
   1 गरीबदास 2. नितानंद 3. बाजे भगत 4. लखमी चन्द 5. मांगे राम 6. साधू राम 7. बस्तीराम 8. फौजी मेहर सिंह 9. तारा दस विलक्षण 10. जयनारायण कोशिक 11. जगदीश चन्द्र वत्स 12. भारत भूषण सांघीवाला।
   नोट : कवि परिचय, व्याख्या एवं प्रश्न पर लिखे गए कवियों में से पूछे जाएंगे। गद्य भाग में से आसा की किरण (हरियाणवी कहानी) साझ और (हरियाणवी नाटक) तथा स्वर्ण जयन्ती (हरियाणवी एकांकी) पाठ्यक्रम में रखे गये हैं।
   नोट : गद्य भाग में से केवल दो आलोचनात्मक प्रश्न पूछे जाएंगे, जिनमें से किसी एक का उत्तर देना होगा।
1. प्रयाजनमूलक हिंदी और काव्यांग – डॉ नरेश मिश्र अभिनव प्रकाशन, नई सड़क दिल्ली।

अंक विभाजन

1. हरियाणवी जनपदीय भाषा और साहित्य पर आधारित कवियों में से व्याख्या के लिए चार अवतरण पूछे जाएंगे। परीक्षार्थियों को इनमे से दो की व्याख्या करनी होगी। प्रत्येक व्याख्या 6 अंकों की होगी। त्र 12
2. निर्दिष्ट कवियों में से किन्हीं दो कवियों का साहित्यिक परिचय पूछा जाएगा। परीक्षार्थियों को इनमें से किसी एक का परिचय देना होगा। यह प्रश्न 8 अंकों का होगा। त्र 8
3. निर्धारित कवियों की अनुशीलनी में दिए गए प्रश्नों में से चार प्रश्न पूछे जायेंगे। परीक्षार्थियों को इनमें से किन्हीं दो का उत्तर देना होगा। यह प्रश्न 6 अंकों का होगा। त्र 12

4. गद्य भाग में से पूछे गए दो आलोचनात्मक प्रश्नों में से कोई एक प्रश्न करना होगा। यह प्रश्न 10 अंकों का होगा। त्र10
5. प्रयोजनमूलक हिन्दी और काव्यांग पर आधारित पाठ्य पुस्तक से 4 प्रश्न पूछे जाएंगे, इनमें से परीक्षार्थियों को दो प्रश्नों के उत्तर देने होंगे। प्रत्येक प्रश्न 10 अंकों का होगा। त्र 20
6. **हिन्दी साहित्य का इतिहास** (आदिकाल और मध्यकाल) से 4 प्रश्न पूछे जायेंगे इनमें से किन्हीं दो प्रश्नों के उत्तर देने होंगे। प्रत्येक प्रश्न 10 अंकों का होगा। त्र 20
7. हिन्दीं साहित्य का इतिहास (आदिकाल–मध्यकाल) और प्रयोजनमूलक हिंदी पाठ्य पुस्तक दोनों में से 5–5 अति लघुत्तरी प्रश्न पूछे जाएंगे, इनमें से किन्हीं पांच प्रश्नों के लगभग 50 शब्दों में उत्तर देने होंगे। प्रत्येक प्रश्न 2 अंक का होगा और पूरा 10 अंकों का होगा। त्र 10
8. काव्यांग से दो रसों के और दो अलंकारों के सोदाहरण लक्षण पूछै जाएंगे। इनमें से एक रस और एक अलंकार का लक्षण सोदाहरण लिखना होगा। यह प्रश्न 4. 4 त्र 8 अंकों का होगा। त्र 8

HISTORY
OPTION-2- HISTORY OF ANCIENT WORLD
PAPER CODE: BA3003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section I

1. Prehistoric huntergatheres: Paleolithic and Mesolithic cultures.
2. Food produces and Villages Settlements.
3. bronze age civilisation : Egypt and Mesopotamia – Socio Economic Structure, Science and Technology.
4. Iron Age civilisation : Greece and Rome –Policy, economy and society
5. Origin of feudalism in western and central Europe : Manorial system, Rise of Inter – dependency, Position of peasantry under feudalism Role of Church.
6. Feudal Dynamism: Technology innovation, Population growth, Revival of long distance trade and rise of town, Decline of feudalism.

Section II

1. Arabia before Islam.
2. Rise of Islam Prophet and Pious Caliphs
3. Evolution of Islamic state with special reference to state under Ummayids and Abbasids.
4. Society under umayyads and Abbasids.
5. Administrative structure under ummayyads and Abbasids.

Section III

Maps

1. An outline of Bronze Age civilisations indicating important sites.
2. Location of important town of Greek Civilisation.
3. Location of important towns of Roma World.
4. Trade routes and towns under Arab Empire.

Section IV

Objectives types Questions:

Suggested Readings:

Anderson P. Passages from Antiquity to Marc Bloch Feudalism Feudal Society; 2 Vols.
Henri Pirence, Social and Economic History of Medival Europe.
Maurice Dobb, Studies in the Development of Capitalism.
White Jr. Lynn, Medieval Technology and social Change.
Mukhia, Harbans, The Feudalism Debate (in Hindi also).
Gupt, P.S. (ed.) Adhunik Pashim Ka Udhay (in Hindi).
Virotam, Balmukand, Madhya Kallen Europe ka Itihas (in Hindi).
Hitti, P.K. History of the Arabs.
Ali.K. Studies in Islamic History.

Sahu, Kishori Prashad IsIam –Udbhav aur Vikas.
Levy, R. Social Structure of Islam.

ECONOMICS
DEVELOPMENT & ENVIRONMENTAL ECONOMICS AND INTERNATIONAL TRADE
PAPER CODE: BA3004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Part-A (DEVELOPMENT AND ENVIRONMENTAL ECONOMICS)

Unit 1

Economic growth and development Determinants and measurement of development : vicious circle of poverty-Development with unlimited supply of labor(leqi's Model), - Balanced and unbalanced growth; critical minimum effort thesis (Harvey Leireinstein).

Unit II

Environment as a necessity and luxury; Population environment linkage; Market failure in case of environmental good; environment as a public good; Prevention and Control of Pollution; Environment as a public good; Prevention and control of pollution Environmental legislation; Meaning, importance and indicators. Sustainable development.

Part- B (International Economics)

Unit III

Meaning of balance of payments equilibrium. Causes and effect of BOP disequilibrium and corrective measures; Foreign trade multiplier; functions of IMF, World Bank and WTO; changes in the composition and direction of foreign trade of India since 1991. Cause of persistent deficit in India's BOP and corrective measures.

Reading List :

1. Adelman 1 (1961), Theories of Economics Growth and Development. Stanford University Press, Stanford.
2. Behrman, S and T.N. Srinivasan (1995) Handbook of Development Economics, Vol. 1 to 3 Elsevire, Amsterdam.
3. S(1996) An introduction to Development Economics, Allen and Unwin London.
4. Hayami, Y (1997) Development Economics Oxford University Press, New York.
5. Higgins, (1997), Economics Development, Noreton, New York
6. Kindleberger, C.P. (1977) Economic Development 30, McGraw Hill, New york.

7. Meier, G.M. (1995), Leading issues in Economic Development Co. Oxford University Press, New York.
8. Myint, Hie (1971), Economic Theory and under Development Countries* Oxford University Press, New York
9. Kindleberger, C.P. (1973), International Economy R.B. Irwin Homewood.

PUBLIC ADMINISTRATION
OPTION-2- LOCAL GOVERNMENT AND ADMINISTRATION IN INDIA
PAPER CODE: BA3005

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Local Government : Meaning and significance, evaluation of Local Government in India since 1882.
Municipalities : Composition, Functions, finances, personnel, general working of Municipal bodies with special reference to Haryana and Punjab, State Government's control over municipal bodies. State Department and Directorate of Municipal bodies, its organisation and functions. Role of the Ministry of Urban

Development as well as the Central Council of Local Self-Govt. in regard to municipalities. Municipal Corporation: Composition, functions and finances, Town and Metropolitan Planning in India, 74th Constitutional Amendment Act, 1992. District Administration : Its features, purposes, problems.

Deputy Commissioner : Deputy Commissioner : his role and position, administration
change in the context planning and Development at district level,
Division Commissioner : his role and position : State Headquarter's control over district Administration.

Rural Local Government : Zila Parishad, Panchayat Samiti Panchayat : Their composition, function, finances, personnel State Government's control over their working, role of political parties in Panchayati Raj, 73rd Constitutional amendment 1992. Role of State and Union Government in regard to Panchayati Rural Institutions in Policy, assistance training and general control problems rural –urban relationship.

POLITICAL SCIENCE
OPTION -1-COMPARATIVE GOVERNMENT AND POLITICS
PAPER CODE: BA3006

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

(Government and Politics of UK, USA, China, Switzerland)

Part A

Approaches to the study of comparative Politics.
Constitution and constitutionalism
Constitution Structures: Executive, Legislature and Judiciary
Political Culture.

Part B

Political parties and Party Systems
Interest Groups and Pressure Groups
State and Local Government
Socio-Economic bases of the constitution
Women and the Polities Process

Part C

Short answer questions, at least five, spread over the entire syllabus, Objective Type (Multiple choice) questions spread over
the whole syllabus.

Suggested Readings

G.Almond al., Comparative Political Today : A world view, 7th edn. New York, London, Harper/Collins 2009.
W. Begehot, The English Constitution, London, Fontana, 1962.
A.H. Birch, British System of Government, 4th and London, George Alen and Unwin 1980.
J. Blondel, An Introduction to comparative Government London Weidenfeld and Nicoloson, 1969.
J.Blondel, Modern Democracies, Vol. 2, New York Macmillan, 1921.
I.Derbyshire, Politics in China, London Chanbers, 1991.
H.F. Finer, Theory and Practice of Modern Government, London Methuen, 1969.
S.E. Finer Comparative Government, Harmondsworth, Penguin, 1974.
J.Gettings, China Changes Face: The Road from Revolution 1949-89 London, Oxford University Press 1989.
E.S. Griffin, The American System of Government, 6th edn. London Methuen, 1983.
H.Harding, China, Second Revolution : Reforms after Mao. United Washington DC, Brookings Institute, 1987.
Inter-Parliamentary Union, Women in National Parliaments, 2000.
D. Kavangh, British Politics: Continuity and Change, Oxford, Oxford University Press, 1985.
H.J. Laski, American Democracy : A Commentary and A Interpretation, London, Unwin 1948.
A Liphart, Electoral Systems and Party System New Haven CT, Yale University Press, 1994.
A Lijhart, (ed.) Parliamentary versus Presidential Government, Oxford and New York, Oxford University Press, 1992.

A Lijphart, Democracies: Patterns of Majoritarian and Consensual Government in Twenty One Countries New Haven CT and
London, Yale University Press, 1992.
R.C. Macridis and R.E. Ward, Modern Political Systems : Europe and Asia 2nd Edn. Englewood Cliffs No. Prentice Hall, 1968.
R.Maddex, Constitutions of the world., 2nd Edn. Washington DC and London CQ Press, 2000.
P.Mair, The West European Party System, Oxford University Press, 1998.
T.Munro, The Governments of Europe, New York, Macmillan, 1963.
B.Nelson and N. Chowdhary (ed.) Women and Politics Worldwide, Delhi, Oxford University Press 1997.
D.Olson, Legislative Institutions : A comparative View, Armonk NY, M.E.Sharpe, 1994.
V.Randall, Woman and Politics: An International Perspective, 2nd Edn., Chichago, University of Chicago Press, 1987.
A. Randal, P. Heywood and V. Wright Developments in West European Politics, Besingstoke, Macmillan, 1997.
K.C. Wheare, Federal Government, 4th Edn. Oxford and New York Oxford University of Chicago Press, 1987.
M. Randal, P. Heywood and V. Wright, Developments in West European Politics, Besingstoke, Macmillan, 1997.
K.C. Wheare, Federal Government, 4th Edn. Oxford and New York Oxford University Press, 1963.
J.Wilson, American Government, 4th Edn. Boston Massachusetts, Houghton Mifflin, 1997.

MATHEMATICS
PAPER-I ANALYSIS
PAPER CODE: BA3007

Marks: 35 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section - I

Riemannintegal Integrability of continuous and monotonic functions. The fundamental theorem of integral calculus, Mean value theorems of integral calculus. Countable and uncountable sets. Cantor's set series of arbitrary terms. Convergance, divergence and oscillation, abel's Dirichlets's tests, Multiplication of series, Double series.

Section- II

Improper integrals and their convergence. Comparison tests. Abel's and Dirichlet's tests. Frullani's integral. Integral as a function of a parameter Continuity, derivability and integrability of an integral of a function of a parameter. Fourier Series, Fourier expansion of piecewise-monotonic function.

Section- III

Definition and examples of metric spaces Neighbourhoods. Limit Points, Interior points. Open and closed sets. Closure and interior. Boundary points. Sub-space cauch sequences completeness contor's intersection theorem. Contraction principle Construction of real numbers as the completion of the incomplete metric space of rationals. Real numbers as a complete ordered field. Dence subsets. Baire category theorem.

Section-IV

Separable, second countable and first countable spaces. Countinuous functions. Extension theorem. Uniform countinuity Isometry and homeomorphism Equivalent metrics. Compactness. Sequential Compactness. Totally bound spaces. Finite intersection property. Continuous functions and compact sets. Connectedness . components continuous function and connected sets.

Books Recommended

T.M. Apostol, Mathematical Analysis, Naroasa Publishing House,New Delhi, 1985.
R.R. Goldberg, Real Analysis, Oxford & IBH Publishing Co. NewDelhi, 1985.
E.T. Copson, Metric Spaces, Cambridge University Press, 1968.
G.F. Simmons, Introductions to Topology and Modern AnalysisMcGraw-Hill, 1963.
Babu Ram, Metric Spaces, Vinayaka Publishers, New Delhi.
Mursaleem-Elements of Metric Spaces, Anamaya Publications,New Delhi.
Jain, P.K. and Ahmad, K. Metric Spaces, Naroasa Publishing -House, New Delhi.
Peter V.O. Neil, Advanced Engineering Mathematics, 11 Company, USA.
Alan Jafferey, Advanced Engineering Mathematics, Harcouf Academic Press, USA.

K.A. Stroud, Advanced Engineering Mathematics, Industry Press, Inc. New York.
K.A. Stroud, Engineering Mathematics (Indian Edition), Repi Press, Pvt. Ltd.
Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley Sons.
Lipschtz Set Theory and Related Topics, Schaum, Outline Series.Tata McGraw Hill, New Delhi.

PAPER-II ABSTRACT ALGEBRA
PAPER CODE: BA3007

Marks: 35 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section I

Group-Automorphisms, inner automorphism, Automorphism groups and their computations. Conjugacy relation. Normalized Counting principle and the class equation of a finite group. Center for Group of prime-order. Abelianizing of a group and its universal property. Sylow's theorems. p-Sylow subgroup structure theorem for finite Abelian groups.

Section II

Ring theory-Ring homomorphism, Ideals and Quotient Rings. Field of Quantients of an Integral Domain. Enclidean Rings. Polynomial, Rings. Polynomials over the Rational Field. The Eisenstein Criterion. Polynomial Rings over Commutative Rings. Unique factorization domain. Unique factorization domain implies so is $R[x_1, x_2, \ldots\ldots\ldots\ldots x_n.]$

Section Ill

Definition an examples of vector spaces. Subspaces Sum and direct sum of subspaces. Linear span Linear-dependence, independence and their basic properties. Basis Finite dimensional vector spaces. Existence theorem for bases. Invariance of the number of elements of a basis set, Dimension Existence of complementary subspace of a subspace of finite dimensional vector space. Dimensional of sums of subspaces Quotient space and its dimension. Linear transformations and their representation as matrices. The Algebra of linear transformations. The rank nullity theorem. Change of basis. Dual space. Bidual space and natural isomorphism. adjoin of a linear, transformation. Eigen values and eigenvectors of a linear transformation Diagonalisation. Annihilator of a subspace Bilinear, Quadratic and hermitian forms.

Section IV

Inner Product Spaces-Cauch-Schwarz inequality. Orthogonal vectors, Orthogonal complements. Orthonormal Sets and bases. Bessel's inequality for finite dimensional spaces. gram-Schmidt Orthogonalization process. Modules, Sub modules, Quotient modules Homomorphism and Isomorphism theorems.

Books Recommended

1. I.N. Herstein, Topics in Algebra, Wiley Esatern Ltd., New Delhi, 1975.
2. N. Jacobson, Basic algebra, Vols. I & II, W.H. Freeman, 1989.
(also published by Hindustan Publishing Company).
3. K. Hoffman and R. Kunze, Linear Algebra, 2nd Edition, Prentics Hall, Englewood Cliffs, New Jersey, 1971.
4. S.K. Jain, a Gunawardena & P.B. Bhattacharya Basic Linear Algebra with MATLAB Key College Publishing (Springer-Verlag)2001.
5. S.Kumaresan, Linear Algebra, A Geometric Approach, Prentice Hall of India, 2000.
6. Vivek Sahal and Vikas Bist Algebra, Naroasa Publishing House, 1997
7. L.S.Luther and I.B.S. Passi Algebra, Vol 1 Group, Vol 2 Rings, Naroasa Publishing House (Vol-I 1996, Vol-II,J999) ..."
8. Peter V O'Neil, Advanced Engineering Mathematics, Harcourt/ Academic Press, USA.
9. Alan Jafferey, Advanced Engineering Mathematics, Industry- Press, Inc. New York.
10. K.A. Stroun, Advanced, Engineeing Mathematics, (India Edition, replika Press Pvt. Ltd.
11. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley and Sons.
12. Jai Singh, abstract Algebra, Schaum Outline Series, Tata McGraw Hill, New Delhi.

PAPER III
PROGRAMMING IN C AND NUMERICAL ANALYSIS
PAPER CODE: BA3007

Marks: 30 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Section I
Programmer's model of a computer, Algorithms Flow Charts, Data Types. Arithmetic and input/output instructions. Decisions control structures. Decision statements. Functions. Recursions Preprocessor.

Section II
Arrays Puppeting of string. Structures Pointers, File formatting.

Section III
Solution of Equations : Bisection, Secant, Regular Falsi, Newton's Method, Roots of Polynomials.
Interpolation : Lagrange and Hermite Interpolation, Divided Differences, Difference Schemes, Interpolation Formula, Besse Interpolation Formula.

Numerical Differentiation using Newton's Formulae and Neown's divided differences'
Numerical Quardrature : Newton-Cote's formulas, Gauss Quardrature Formulas.
Linear Equations ; Direct Methods for solving Systems of Linear Equations (Gauss Elimination. LU Decomposition, Cholesky Decomposition). Iterative Methods (Jacobi, Gauss, Seidel, Relaxation Methods)
Algebraic, Eignevalue problem : Jacobi's Method Givens Method. Householder's Method, Power Method, QR Method, Lanczos' Method

Section IV
Ordinary Differential equations : Euler method, Single step Methods, Runge-Kutta's Method. Multi-step Methods, Milne-Simpson Method, Methods Based on Numerical integration methods Based on Numerical Differentiation, Boundary Value Problems, Eigenvalue Problems. Approximation : Different Types of Approximation, Least Square Polynomial Approximation, Polynomial Approximation
using Orthogonal Polynomials, approximation with exponential Functions. Monte Carlo integration, hit or miss Monte Carlo integration, Monte Carlo integration for improper integrals, error analysis for Monte Carlo integration.

Books Recommended

1. Byron S. Gottfried, Theory and Problems of Programming with C, Tata McGraw-Hill, Publishing Co. Ltd. 1998.
2. C.E. Froberg, Introduction to Numberical Analysis, (Second Edition), Addison Wesley 1979.
3. Melvin, J Maron, Numerical Analysis A Practical Approach, Macmillan Publishing Co., Inc. New York, 1982.
4. M.K. Jain, S.R.K. Iyenger, R.K. Jain, Numerical Methods Problems and Solutions, New Age International (P) Ltd., 1996.
5. R.Y. Rubistein, Simulation and the Monte Carlo Methods, John Wiley, 1981.
6. Peter V. O'Neil, Advanced Engineering Mathematics, ITP Company, USA.
7. Alan Jafferey, Advanced Engineering Mathematics, Hartcourt/ Academic Press USA.
8. K.A. Stroud, Advanced engineering Mathematics, (Indian Edition), Replika Press Pvt. Ltd.
9. K.A. Stroud, Advanced Engineering Mathematics, Industrial Press, Inc. New York.
10. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley and sons.
11. Scheid, Theory and Problems of Numerical Analysis, Schaum Outline Series, Tata McGraw Hill, New Delhi.

SANSKRIT
PAPER CODE: BA3008

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No.

1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I

संस्कृत वाग्व्यवहार **= 10**

एकक–1 संस्कृत व्यवहारसाहस्री (प्रकाशक संस्कृत भारती, माता मन्दिर गली वाणिज्यम् 20 वातावरणम् 21 गृहसम्भाषणम् 22 पितरः च–23 माता पितरौ 24 पुत्राः 25 अतिथिः 26 संकीर्ण, वाक्यानि)

Unit-II

संस्कृत ग्रन्थानु शीलनम् **= 25**

एकक–2 अभिज्ञान शाकुन्तलम्
(श्लोकों व सूक्तियों को व्याख्या आलोचनात्मक प्रश्न व सार)

Unit-III

संस्कृत साहित्येनिहास : **= 20**

एकक–3 (क) संहिता, ब्राह्मण, आरण्यक, उपनिषद् व वेदाङक साहित्य
(ख) रामायण, महाभारत, अश्वघोष, भास, कालिदास, बाणभट्ट, सुबन्धु, दण्डी,
भवभूति, भारवि श्री हर्ष, माघ, अम्बिकादत् व्यास।
;लेखकों व कृतियों का सामान्य परिचयद्ध

Unit-IV

लघु सिद्धांत कौमुदी **= 25**

एकक–4 (क) कारक प्रकरण
(ख) स्त्री प्रत्यय प्रकरणम्
अशुद्धि शोधन, वाक्य रचना व सूत्रों की व्याख्या।

Unit-V

अलंकार निबन्धेश्च **= 20**

एकक–5 (क) अलंकार अनुप्रास श्लेज़, यमक, उपमा, उत्प्रेक्षा, रुपक, अर्थान्तरन्यास, अतिश्योक्ति, विभावना, विशेषोक्ति
(ख) सरल विषयों पर सरल संस्कृत में निबन्ध

Scheme of Examination

Bachelor of Commerce (B.COM)
Three Year Programme (Annual)

2013-14

B.COM-I

Paper	**Nomenclature**	**Marks**
BM1001	Business Communication	100
BM1002	Business Economics	100
BM1003	Business Management	100
BM1004	Business Mathematics	100
BM1005	Financial Accounting	100
BM1006	**Basic of Computer** Paper A- Theory Paper B- Practical	 50 50
BM1007	Environment Studies(qualifying subject)	100

B.COM-II ***2014-15***

Paper	**Nomenclature**	**Marks**
BM2001	Business Regulatory Framework	100
BM2002	Business Statistics	100
BM2003	Company Law and Auditing	100
BM2004	Corporate Accounting	100
BM2005	Principles of Marketing	100
BM2006	Human Resource Management	100

B.COM-III ***2015-16***

Paper	**Nomenclature**	**Marks**
BM3001	Advertisement & Sales Management	100
BM3002	Business Environment	100
BM3003	Income Tax	100
BM3004	Cost Accounting	100
BM3005	International Marketing	100
BM3006	Management Accounting and Financial Management	100

Important Note: *The Environmental studies is a qualifying paper for all UG Courses i.e BA & B.Com. Students are required to qualify the same, otherwise final result will not be declared and degree will not be awarded.

BACHELOR OF COMMERCE (B.COM)
B.Com-I
BUSINESS COMMUNICATION
PAPER CODE: BM1001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit I

Introducing Business Communication : Basic Forms of Communicating; communication Models and process; Effective communication; theories of communication, Audience analysis .

Unit II

Self Development and Communication : Development of positive personal attitude; SWOT analysis; Vote's model of interdependence; Whole communication.

Unit III

Corporate Communication: Formal and informal communication networks; Grapevine; Miscommunication (Barrier communication); Group discussion; Mock interviews; seminars; Effective listening exercise; individual and group presentations and reports writing.

Unit IV

Principle of Effective Communication.

Unit V

Writing Skills: Planning business message; Rewriting and edition; The first draft; Reconstructing the final draft; business letters and memo formats; appearance request letters; Good news and bad news letters; Persuasive letters; Sales letters; Collection letters; office memorandum.

Unit VI

Report Writing : introduction to a proposal, short report and formal report, report preparation.
Oral presentation : Principles of oral presentation factors affecting presentation, sales presentation. Training presentation, conducting surveys, speeches to motivate, effective presentation skills.

Unit VII

Non Verbal Aspects of Communicating

Body language : kinetics, Proxemics, Para language; effective listening; principles of effective listening; factors affecting listening exercise; oral, written, and video conferencing; etc.

International Communication: Cultural context; Writing and presenting in international situations; inter-cultural factors in interactions. Adapting to global business.

BUSINESS ECONOMICS
PAPER CODE: BM1002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit I

Introduction: Basic problems of an economy; Working of price mechanism.

Unit II

Elasticity of Demand: Concept and measurement of elasticity of demand; Price, income and cross elasticity's; Average revenue, marginal revenue, and elasticity of demand; Determinants of elasticity of demand; Importance of elasticity of demand.

Unit III

Production Function: Law of variable proportions, Iso-quants; Economic regions and optimum factor combination; Expansion path; Returns to scale; Internal and external economies and dis-economies; Ridge lines.

Unit IV

Theory of Costs: Short-run and long-run cost curves-traditional and modern approaches.

Unit V

Market Structures: Market Structures and business decisions; Objectives of a business firm.

a) Perfect Competition: Profit maximization and equilibrium of firm and industry; Short-run and long run supply curves; Price and output determination; Practical applications.

b) Monopoly: Determination of price under monopoly; Equilibrium of a firm; Comparison between perfect competition and monopoly; Multi-plant monopoly; Price discrimination. Practical applications.

c) Monopolistic Competition: Meaning and characteristics; Price and output determination under monopolistic competition; Product differentiations; Selling costs; Comparison with perfect competition; Excess capacity under monopolistic competition.

d) Oligopoly: Characteristics, indeterminate pricing and output; Classical models of oligopoly; Price leadership; Collusive oligopoly; kinked demand curve.

Unit VI

Factor Pricing-I: Marginal productivity theory and demand for factors; Nature of supply of factor inputs; Determination of wage rates under perfect competition and monopoly; Exploitation of labor; Rent-concept; Ricardian and modern theories of rent; Quasi rent.

Unit VII

Factor Pricing-II: Interests-concept and theories of interest; Profit-nature, concepts, and theories of profit.

BUSINESS MANAGEMENT
PAPER CODE:BM1003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit I

Introduction to Management: Concept, Nature, Process and Significance of Management; Managerial Roles (Mintzberg); Development of Management Though, Classical and Neo-classical Systems; Contingency Approaches.

Unit II

Planning: Concept process and Types; Decision Making Concept and Process; Bounded Rationality; Management by Objectives; Corporate planning Environment analysis and diagnosis; Strategic formulation.

Unit III

Organizing: Concept Nature; Process and Significance; Authority and Responsibility Relationship; Centralization vs. Decentralization; Departmentation; Organisation Structure Forms and contingency factors.

Unit IV

Motivating and Leading people at Work; Motivating concept; Theories- Maslow, Herzberg, Mcgregor, a Ouchi; Financial and non-financial incentives. Leadership concept and leadership styles; Leadership theories (Tannenbaum and Schmidt); Likert's System Management; Communication- Nature, Process, networks and barriers; Effective communication.

Unit V

Managerial Control; Concept and process; effective control system; Techniques of control traditional and modern.

Unit VI

Management of Change : Concept, Nature and process of planned change; resistance to change; Emerging horizons of management in a changing environment

BUSINESS MATHEMATICS
PAPER CODE:BM1004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit I

Calculus: (Problems and theorems involving trigonometrically ratios are not to be done).

Differentiation: Partial derivatives up to second order; Homogeneity of functions and Euler's theorem; total differentials Differentiation of implicit function with the help of total differentials. Maxima and Minima; Cases of one variable involving second or higher order derivatives; Cases of two variables involving not more than one constraint.

Integration: Integration as anti-derivative process; Standard forms; Methods of integration-by substitution, by parts, and by use of partial fractions; Definite integration; Finding areas in simple cases; Consumers and producers surplus; Nature of Commodities learning Curve; Leontiff Input-Output Model.

Unit II

Matrices and Determinants: Definition of matrix; Types of matrices; Algebra of matrices; Properties of determinants; calculation of values of determinants up to third order; Adjoint of a matrix, through adjoint and elementary row or column operations; Solution of system of linear equations having unique solution and involving not more than three variables.

Unit III

Linear Programming-Formulation of LPP: Graphical method of solution; Problems relating to two variables including the case of mixed constraints; Cases having no solution, multiple solutions, unbounded solution and redundant constraints. Simplex Method—Solution of problems up to three variables, including cases of mixed constraints; Duality; Transportation Problem.

Unit IV

Compound Interest and Annuities: Certain different types of interest rates; Concept of present value and amount of a sum; Types of annuities; Present value and amount of an annuity, including the case of continuous compounding; Valuation of simple loans and debentures; Problems relation to sinking funds.

FINANCIAL ACCOUNTING
PAPER CODE:BM1005

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Meaning and Scope of Accounting: Need development, and definition of accounting; Book-keeping and accounting; Persons interested in accounting; Disclosures; Branches of accounting; Objectives of accounting.

Accounting Principles: International accounting standards (only outlines); Accounting principles; Accounting standards in India (only outlines).

Accounting Transactions: Accounting Cycle; Journal; Rules of debit and credit; Compound journal entry; Opening entry; Sub-division of journal; Relationship between journal and ledger; Rules regarding posting; Trial balance.

Capital and Revenue: Classification of Income; Classification of expenditure; Classification of receipts.

Accounting concept of income: Accounting-concepts and income measurement; Expired cost and income measurement.

Final Accounts: Manufacturing account; Trading account; Profit and Loss account; Balance Sheet; Adjustment entries.

Rectification of Errors: Classification of errors; Location of errors; Rectification of errors; Suspense account; Effect on profit.

Depreciation Provisions and Reserves: Concept of depreciation, causes of Depreciation, depletion, amortization and dilapidation; Depreciation accounting; methods of recording depreciation; Methods for providing depreciation; Depreciation of different assets; Depreciation of replacement cost; Depreciation policy as per Accounting Standard: Depreciation accounting; Provision and reserves. Accounts of Non-Trading institutions Single Entry System Voyage Account

BASICS OF COMPUTER
PAPER-A-THEORY
PAPER CODE:BM1006

Marks: 50 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Fundamentals of Computers : Model of a digital computer, Functioning of a digital computer, Historical evolution of computers. Classification of computers. Human being v/s Computer, Input output devices Storage devices, Types of software; Application and system software, multiprogramme, operating-system and its functions, Tirrie sharing, multiprocessing. Applications of computers in Commerce, Marketing, education and management.
Introduction to windows: Types of windows, Windows as an operating system, Windows explorer, using clipboard, using paint brush, control panel installing a printer.
MS-WORD: Fundamentals of MS-WORD : Menus, Toolbars, Ruler Scroll bar, creating, Editing saving. Importing Exporting and insert fig files; Working with Frames, Columns, Pictures, Tables, Macros.

Ms-Excel : Worksheet overview : Rows, Columns, Cell, Menus Creating worksheet, opening and saving worksheets, Formatting printing. Establishing Worksheet Links, Tables Creating and printing graphs. Macros, using V built-in functions.

BASICS OF COMPUTER
PAPER-B-PRACTICAL
PAPER CODE:BM1006

Marks: 50
Practical:
MS Word
Windows
Distribution of Marks in practical examination
1. Practical work book 10 Marks
2. One practical question 25 Marks
3. Viva- Voce 15 Marks

ENVIRONMENT STUDIES(QUALIFYING SUBJECT)
PAPER CODE:BM1007

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

B.Com II
BUSINESS REGULATORY FRAMEWORK
PAPER CODE :BM2001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Law of Contract (1872): Nature of Contract, Classification, Offer and Acceptance, Capacity of Parties to Contract; Discharge
of Contract; Remedies for Breach of Contract Special Contrasts: Indemnity; Guarantee: Bailment and Pledge; Agency.
Sales of Goods Act 1930: Formation of Contracts of Sale; Goods and their Classification, Price; Conditions, and Warranties;
Transfer of Property in Goods; Performance of the Contract of Sales Unpaid Seller and his Rights, Sale by Auction; Hire Purchase Agreement.
Negotiable Instrument Act 1881: Definition of Negotiable Instruments; Features; Promissory Note, Bill Exchange & Cheque;
Types of Crossing; Dishonor and Discharge of Negotiable Instrument.
The Consumer Protection Act 1986: Salient Features; Definition of Consumer; Grievance Redressal Machinery.
Foreign Exchange Management Act 1999: Definition and Main Provisions.

BUSINESS STATISTICS
PAPER CODE :BM2002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit I
Introduction ; Statistics as a Subject, Statistical Data-Meaning and Types, Collection and Rounding of Data, Classification and Presentation of Data, Diagrammatic Presentation of Data, Graphic Presentation of Data, Statistical Averages, Measures of Dispersion.

Unit II
Method of Measurement of Correlation, Rank Correlation, Method of Concurrent Deviation, Coefficient of determination, Association of Attributes, Regression Analysis (Linear), Uses of Regression Analysis, Regression Lines, Regression Equations, Standard Error of Estimate.

Unit III
Index Number : Definition and Characteristics, Problems involved in the construction of Index numbers, the uses of averages, Construction of different type of indices. Simple aggregate method. Simple average of relatives. Weighted aggregate, method, Test of adequacy, Time reversal test. Factor reversal test and the Circular test, Consumer price index, Time Series Analysis, Definition, Utility of Time Series Analysis, Components of time and concepts series-secular trend. Seasonal variations. Cyclical variations, irregular variations. Measurement of trend. Moving average and Least Square Methods, Interpolation and
Extrapolation.

Unit IV
Probability concept and various approaches of defining probability. Additive rule. Applicative theorem. Conditional probability and Bayes Theorem, Probability distributions: Binomial, Poisson and Normal distributions.

COMPANY LAW AND AUDITING
PAPER CODE :BM2003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Introduction
Meaning, characteristics & Types of companies Promotion and incorporation of companies;
Memorandum of association. Articles of Association, Prospectus; Borrowing power, mortgages and charges.

Directors-appointment, powers and Legal position. Company meetings-kinds, quorum, voting, resolutions, minutes
Audit of Limited companies-Company auditor-appointment, powers, duties and liabilities; auditor report; Investigation-meaning, nature and importance.
Introduction; Meaning and Objectives of auditing; Types of audit; Internal audit.
Audit process; audit programme; Working paper and evidences; Routine checking and test checking
Internal Check System Vouching; Verification of assets and liabilities.

CORPORATE ACCOUNTING
PAPER CODE :BM2004

Marks: 100

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Issue. Forfeiture and Re-issue of Shares; Redemption of Preference Shares, Issue and Redemption of Debentures. Profit/ Loss prior to incorporation
Final accounts of Companies: Excluding Computation of Managerial Remuneration; Valuation of goodwill and shares. Accounting for Amalgamation, absorption of Companies as per Indian Accounting Standard.
Accounting for internal reconstruction: excluding re-construction schemes. Consolidated Balance Sheet of Holding Companies with one Subsidiary only.
Liquidation of companies: Accounts of Banking and Insurance companies.

PRINCIPLES OF MARKETING
PAPER CODE :BM2005

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Introduction: Nature and scope of marketing; Importance of marketing as a business function, and in the economy; Marketing concepts-traditional and modern: Selling vs. marketing, marketing mix; Marketing environment.
Consumer Behaviour and Market Segmentation: Nature, scope, and significance of consumer behaviour; Market segmentation – concept and importance; Bases for market segmentation.
Product: Concept of product, consumer, and industrial goods; product planning and development; Packaging-role and functions; Brand name and trade market; after-sales service; Product life cycle concept.
Price: Importance of price in the marketing mix; Factors affecting price of a product/service; Discounts and rebates.
Distribution Channels and Physical Distribution: Distribution channels-concept and role; Types of distribution channels; Factors affecting choice of a distribution channel; Retailer and wholesaler; Physical distribution of goods; transportation; Warehousing; Inventory control; Order processing.
Promotion: Methods of promotion; Optimum Promotion Mix; Advertising Media-, their relative merits and limitations, characteristics of an effective advertisement, Personal Selling, Publicity: Sales promotion and public relations.

HUMAN RESOURCE MANAGEMENT
PAPER CODE :BM2006

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Human Resource Development: Concept, benefits and prerequisites. Difference between human resource development and human resource management. Role, functions and status of human resource manager. Role of chief executive, Line managers and HRD managers in developing human resources. Personnel policies, procedures and programmes. Human resource planning. Job evaluation.
Recruitment: steps in recruitment, recruitment policy, sources and methods of recruitment. Selection process and policy. Career planning: objectives and responsibilities; process, prerequisites advantages and limitations of career planning; career problems and their solutions. Training and development: concept and importance of training; training methods/techniques. Performance appraisal.
Wage and salary administration: Promotion, transfer, demotion, separation and absenteeism; labor turnover. Personnel records and audit.
Industrial relations in India: HD practices in Indian industries. Concept and forms of industrial democracy.

B.Com III
ADVERTISEMENT & SALES MANAGEMENT
PAPER CODE :BM3001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Communication Process: Basic communication process, role and source; Encoding and decoding of message, media, audience, feedback, and noise.
Advertising and Communication Mix: Different advertising functions; Types of advertising, Economic social aspects of advertising; Advertising process-an overview setting advertising objectives and budget.
Creative Aspects of Advertising: Advertising appeals, copy writing headlines, illustration, message, copy types.
Advertising Media: Different types of media; Media planning and scheduling.
Impact of Advertising: Advertising Agency roles, relationship with clients, advertising department; Measuring advertising effectiveness; Legal and ethical aspects of advertising.
Sales Management: Sales Management, Personal Selling and Salesmanship, Organizing the sales efforts; Sales force management: Recruitment, Selection, Training Motivation, compensating and Controlling sales personnel, Sales Budget, Sales quotas and Sales Territories.

BUSINESS ENVIRONMENT
PAPER CODE :BM3002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Course Inputs: Business environment: concept, components and importance
Economic trends (overview): Income, savings and investment Industry trade balance of payments, Money finance; prices.
Problems of growth: Unemployment; Poverty; regional imbalances; social injustice; Inflation; parallel economy; Industrial sickness.
Role of Government in Indian Economy: Monetary and fiscal policy; Industrial policy; Industrial licensing, privatization; devaluation; Export-import policy; Foreign investment; and collaborations.

Tenth five year plan: Major policies; resource allocation.
International Environment: International environment (overview); Trends in world trade and the problems of developing countries; foreign trade and economic growth.
International economic institutions: GATT, WTO, UNCTAD, World Bank, IMF.

INCOME TAX
PAPER CODE :BM3003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I

Definitions: Agricultural Income, Previous year. Assessment year, Assesses, Person, Casual Income, Total Income, Residence of assesses and incidence of Tax liability. Income exempted from tax: Income under the head salary, house property, business and profession (including depreciation allowance and investment allowance etc.) capital gains and other sources.

Unit II

Deduction from gross total income, set-off and carry forward of losses. Aggregation of incomes. Assessment of individuals, Hindu undivided families, and Firms (including computation of tax.)

Unit III

Income Tax Administration: Income Tax Authorities, Assessment procedure, Recovery and refund of tax, appeals and revision, penalties and prosecutions. Return filing by the individuals.

COST ACCOUNTING
PAPER CODE :BM3004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Introduction: Nature and scope of cost accounting, Cost concepts and classification, methods and techniques, Installation of costing system Concept of cost audit.

Accounting for material: Material control, Concept and techniques, pricing of material issues Treatment of material losses.
Accounting for labour: Labour cost control procedure, labour turnover, idle time and overtime; Methods of wage payment time and piece rates; incentive schemes.
Accounting for overheads: Classification and departmentalization; absorption of overheads; Determination of overhead rates: Under and over absorption, and its treatment.
Cost Ascertainment: Unit costing; Job, batch and contract costing operating costing; Process costing including inter process profits and excluding equivalent production and joint and by-products.
Cost Records: Integral and non-integral system; reconciliation of cost and financial accounts.
Standard Costing and variance analysis: Material and labour variances only; Budgetary control Marginal costing and break-even-analysis.

INTERNATIONAL MARKETING
PAPER CODE :BM3005

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

International Marketing: Nature, Definition, and Scope of International marketing, Domestic Marketing vs. International Marketing, International Marketing Environment Economic Cultural, Political & Legal Environment. **Identifying and Selecting Foreign Markets:** Foreign Market entry mode decisions.
Product Planning for International Market: Product designing, standardization vs. adoption; Branding, and packaging; Labeling and quality issues; After sales services.
International Pricing: Factors influencing international price; Pricing process and methods, International price quotation and payment terms.
Promotion of Product/services Abroad: Methods of international promotion; direct mail and sales literature; advertising; personal selling; trade fairs and exhibitions.
International Distribution: Distribution channels and logistics decisions; selection and appointment of foreign sales agents. Planning, organizing and controlling of International Marketing; Exim policy-an overview Trends in India's foreign trade.

MANAGEMENT ACCOUNTING AND FINANCIAL MANAGEMENT
PAPER CODE :BM3006

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Management Accounting: Meaning, nature, scope and functions of management accounting in decision making; Management accounting vs financial accounting; Tools and techniques of management accounting.
Financial Statement: Meaning and types of financial statement; Limitations of financial statements; Objectives and methods of financial statements analysis; Ratio analysis Classification of ratios-Profitability ratios, turnover ratios, liquidity ratios, turnover ratios advantages of ratio analysis, Limitations of accounting ratios. Fund Flow Statement, Cash flow statement as per Indian Accounting standard,
Financial management: Financial goal; Profit vs. Wealth maximization: financial function investment, financing and dividend decision; financial planning, over-capitalization and under investment, financing, and dividend decision; financial planning, over-capitalization and under capitalization.
Capital Budgeting: Nature of investment decision; investment evaluation criteria, net present value; internal rate of return profitability index payback period accounting rate of return NPV and IRR comparison, excluding risk analysis.
Cost of Capital: Significance of cost of capital; calculating cost of debt; Preference, Equity and retained earnings; Combined (weighted) Cost of capital. Capital structure theories and determinants.
Hypothesis; forms of dividends and stability in dividends; determinants.
Management of Working Capital: Nature of working capital significance of working capital operating cycle and factors determining of working capital requirements. Estimation of working capital.

Scheme of Examination

Bachelor of Library & Information Science (B.Lib.I.Sc.)

One Year Programme (Annual)

2013-14

Paper	Nomenclature	Total Marks
BL1001	Library and Society	100
BL1002	Library Management	100
BL1003	Library Classification Theory	100
BL1004	Library Classification (Practical)	100
BL1005	Library Cataloguing Theory	100
BL1006	Library Cataloguing (Practical)	100
BL1007	Reference, Information Sources and Services	100
BL1008	Information Technology: Basics (Theory)	50
BL1009	Information Technology: Practical	50

BACHELOR OF LIBRARY & INFORMATION SCIENCE (B.Lib.I.Sc.)

LIBRARY AND SOCIETY

PAPER CODE: BL1001

Marks: 100 **Time: 3Hrs**

*Note:*Examiner is required to set Nine questions in all. Question no. 1 will be compulsory which consists of 10 short-answer questions of 2 marks each covering the entire syllabus. In addition to question no. 1 candidate will be required to attempt four questions from the remaining eight questions carrying 20 marks each

Section 1: Development of Libraries and Their Role in Society

Unit 1: Role of Libraries in Modern Society

Unit 2: Laws of Library science

Unit 3: Development of Libraries in UK and USA

Unit 4: Library Development in Modern India-plans and programme

Section 2: **Types of Libraries**

Unit 5: National Libraries: A Descriptive Account of National Libraries of India, UK, USA & USSR

Unit 6: Academic Libraries: University, College and School Libraries

Unit 7: Public Libraries

Unit 8: Special Libraries and Information Centres

Section 3: Library Legislation

Unit 9: Library Legislation and Model Public Library Act

Unit 10: Library Legislation in Indian States—their Salient Features

Section 4: Resource sharing and User Studies

Unit 11: User Studies

Unit 12: User Education

Unit 13: Resource Sharing — Concept, Need, Form, Resource Sharing—Selected Case Studies

Section 5: Library Associations, Organisation and Institution

Unit 14: Librarianship as a Profession and Professional ethics.

Unit 15: Role of Professional

Unit 16: Organisation and Institutions involved in Development of Library and Information Services.

LIBRARY MANAGEMENT

PAPER CODE: BL1002

Marks: 100 **Time: 3Hrs**

*Note:*Examiner is required to set Nine questions in all. Question no. 1 will be compulsory which consists of 10 short-answer questions of 2 marks each covering the entire syllabus. In addition to question no. 1 candidate will be required to attempt four questions from the remaining eight questions carrying 20 marks each

Section 1: Principles of Library Management

Unit 1: General Principles of Management and the Application to Library Management

Unit 2: Library Organisational Structure

Unit 3: Management Information System

Unit 4: Physical planning

Section 2: Information Resources Development

Unit 5: Types of Information Resources Selection Principles including the communication Media

Unit 6: Different Types of Selection Tools and the Importance

Unit 7: Acquisition Procedure Books and Non- Printing Material

Unit 8: Acquisition of Periodicals and Serials

Unit 9: Technical Processing

Section 3: Use and Maintenance of the Library

Unit 10: Circulation Work

Unit 11: Maintenance Shelving and Stock Verification, etc.

Unit 12: Elements of Binding and Preservation

Section 4: Human Resource Development

Unit 13: Human Resource Development Concept and Contours

Unit 14: Personnel Planning

Unit 15: Participatory Management and Total Quality Management (TQM)

Section 5: Library Finance, Library Budget

Unit-16: Library Finance

Unit 17: Budgeting and Accounting.

LIBRARY CLASSIFICATION THEORY

PAPER CODE: BL1003

Marks: 100 **Time: 3Hrs**

*Note:*Examiner is required to set Nine questions in all. Question no. 1 will be compulsory which consists of 10 short-answer questions of 2 marks each covering the entire syllabus. In addition to question no. 1 candidate will be required to attempt four questions from the remaining eight questions carrying 20 marks each

Section 1: Elements of Classification Theory

Unit 1: Basic Terminology and Historical Perspective

Unit 2: Perspective Need and Purpose of Library Classification

Section 2: Theory and Development of Library Classification

Unit 3: General Theory of Library Classification

Unit 4: Species of Schemes of Library Classification

Unit 5: Learning about subjects

Section 3: Approaches to Library Classification

Unit 6: Postulation and Systems Approaches

Unit 7: Fundamental Categories; Facet Analysis and facet Sequences

Unit 8: Phase Relations and Common Isolates

Unit 9: Devices in Library Classification

Section 4: Study of Selected Schemes of Classification

Unit 10: Dewey Decimal Classification

Unit 11: Comparative Study of 19th, 20th and 21st Edition of DDC

Unit 12: Universal Decimal Classification

Unit 13: Colon Classification

Unit 14: Different Versions of Colon Classification

Unit 15: Current Trends in Library Classification

LIBRARY CLASSIFICATION (PRACTICAL)

PAPER CODE: BL1004

Marks: 100

Notes:

1. There will be three parts consisting of Ten Question each.
2. The student is required to classify any 5 titles by Colon Classification 6th revised edition from part-A each title carries four Marks; Classify any 5 titles by Dewey Decimal Classification 19th edition from part-B and each title carried 4 Marks and Classify and 5 titles using both colon Classification 19th from Part-C and each title carries 8 Marks.
3. Copies of Dewey Decimal classification 19th edition and Colon Classification by S.R. Ranganathan 6th revised edition will be provided for use.
4. The class members assigned should specific as possible.
5. Furnish your answers in the question paper itself in the space provided against each title.
6. Question Paper should have English and Hindi version. Only transliteration of title should be done and not the translation.

Section 1: Dewey Decimal Classification (19th Edition) Part-I

Unit 1: Introductions, Structure and Organisation

Unit 2: Definitions, Notes and Instructions

Unit 3: Introduction to Three Summaries and Steps in Classifying Documents

Unit 4: Relative Index and its use

Section 2: Dewey Decimal Classification (19th Edition) Part-2

Unit 5: Study of Tables and Schedules

Unit 6: Auxiliary tables and Devices

Unit 7: Practical Classification

Section 3: Colon Classification (6th Edition): Preliminaries

Unit 8: Introduction, Structure and Organisation

Unit 9: Schedules and Techniques

Unit 10: Steps in Classification

Section 4: Colon Classification (6th Edition): Introduction to the Application of Postulates and Principles for Facet Analysis and Synthesis

Unit 11: Humanities and Social Sciences

Unit 12: Biological Sciences

Unit 13: Physical Sciences and Generalia

LIBRARY CATALOGUING THEORY

PAPER CODE: BL1005

Marks: 100 **Time: 3Hrs**

*Note:*Examiner is required to set Nine questions in all. Question no. 1 will be compulsory which consists of 10 short-answer questions of 2 marks each covering the entire syllabus. In addition to question no. 1 candidate will be required to attempt four questions from the remaining eight questions carrying 20 marks each

Section 1: History, Purpose and Types of Library Catalogue

Unit 1: Library Catalogue: Objectives, Purpose functions

Unit 2: History and Development of Library Catalogue codes

Unit 3: Physical form of Catalogue

Unit 4: Types of Catalogues

Section 2: Format of Catalogue Entries

Unit 5: Kinds of Entries

Unit 6: Date Elements in Different Types of Entries

Unit 7: Filing of Entries - Classified and Alphabetisation.

Unit 8: Centralised Cataloguing, Cataloguing in Publication and MARC

Unit 9: Machine Formats: MARC and CCF

Section 3: Choice of Rendering of Headings

Unit 10: Personal Authors (Western and Indian Names)

Unit 11: Corporate Authors

Unit 12: Pseudonyms, Anonymous Works and Uniform Titles

Unit 13: Cataloguing of Non- Print Media

Section 4: Subject Indexing, Vocabulary Control and Recent Development in Cataloguing

Unit 14: Subject Cataloguing -Problems

Unit15: Vocabulary Control: Subject Heading List Thesauri

Unit 16: Subject Indexing Models

Unit 17: Techniques for subject indexing

Unit 18: Recent Trends in Library Cataloguing

LIBRARY CATALOGUING (PRACTICAL)

PAPER CODE: BL1006

Marks 100

Notes:

1. There will be two parts consisting of 5 questions each, Part-A is devoted to AACR-II and Part-II to Classified Catalogue Code, 5th revised edition

2. The students required to prepare entries for five titles selecting atleast 2 titles from each part. All titles carry equal Marks.

3. Copies of Colon Classification by S.R. Ranganthan 6th revised edition and Sears list of Subject Heading will be provided for use.

Section 1: AACR-2R-Part -1

Unit 1: Preliminaries

Unit 2: Single Personal Author

Unit 3: Shared responsibility and Editorial Direction

Unit 4: Choice Among Different Names and References

Unit 5: Series and Multivolume

Section 2: AACR -2R-Part -2

Unit 6: Subject Headings

Unit 7: Corporate Bodies

Unit 8: Uniform Titles and Serials

Unit 9: Cataloguing of Non Print Material and Users -Guide to AACR-2R

Section 3: Classified Catalogue Code Part-1

Unit 10: Preliminaries Classified Catalogue Code

Unit 11: Class Index Entries and Tracing

Unit 12: Personal Authors

Unit 13: Corporate Authors

Section 4: Classified Catalogue Code Part-2

Unit 14: Analytical Entries and Composite Books

Unit 15: Series and Composite Books

Unit 16: Multivolume

Unit 17: Periodical Publications

REFERENCE, INFORMATION SOURCES AND SERVICES
PAPER CODE: BL1007

Marks: 100 **Time: 3Hrs**

*Note:*Examiner is required to set Nine questions in all. Question no. 1 will be compulsory which consists of 10 short-answer questions of 2 marks each covering the entire syllabus. In addition to question no. 1 candidate will be required to attempt four questions from the remaining eight questions carrying 20 marks each

Section 1: Study of Reference Sources
Unit 1: Reference and Information Access Tools: Overview
Unit 2: Types of References and Information Access tools
Unit 3: Non Documentary Sources: Human, Institutional, Mass Media
Section 2: Categories of Reference Sources -Part-1
Unit 4: Dictionaries
Unit 5: Encyclopedias
Unit 6: Geographical Sources
Unit 7: Biographical Sources
Section 3: Categories of Reference Sources -Part-2
Unit 8: Statistical Information Sources
Unit 9: Sources of Current Affairs
Unit 10: Indexing and Abstracting Periodicals
Section 4: Information Services
Unit 11: Concept and need for Information.
Unit 12: Information Services: An Overview
Unit 13: Users of Information Services
Section 5: Information Services and Techniques
Unit 14: Reference Services
Unit 15: Current Awareness Services
Unit 16: Document Delivery Service

INFORMATION TECHNOLOGY: BASICS (THEORY)
PAPER CODE: BL1008

Marks: 50 **Time: 3Hrs**

*Note:*Examiner is required to set Nine questions in all. Question no. 1 will be compulsory which consists of 10 short-answer questions of 2 marks each covering the entire syllabus. In addition to question no. 1 candidate will be required to attempt four questions from the remaining eight questions carrying 20 marks each

Section 1: Information Technology: Concepts and Basics
Unit 1: Introduction to Information Technology
Unit 2: Introduction to Computers
Unit 3: Telecommunications: Basics
Section 2: Application Software
Unit 4: Introduction to Application Software
Unit 5: Library and Information Software Package
Unit 6: Features of Indian Software Package
Section 3: Library Automation
Unit 7: Library House Keeping Operations
Unit 8: Computerised Information Services

Unit 9: Management of Computerised Library

Section 4: Information System and Networks

Unit 10: Basic Concepts and Contours of Computer Based Information Systems

Unit 11: Library and Information Networks

Unit 12: Resources Sharing Networks

Unit 13: Internet

INFORMATION TECHNOLOGY: (Practical)

PAPER CODE: BL1009

Marks:50

1. MS Window- Common Commands
2. MS-office- MS Word and MS- Power Point
3. Internet searching and e-mail

Scheme of Examination

Bachelor of Business Administration (BBA)
Three Year Programme (Semester System)

2013-14

First Year

First Semester

Paper	Nomenclature	Marks	Practical	Total Marks
BB1001	Principles of Management	100		100
BB1002	Business Mathematics	100		100
BB1003	Financial Accounting	100		100
BB1004	Computers in Management	50	50	100
BB1005	Disaster Management	100		100

Second Semester

Paper	Nomenclature	Marks	Practical	Total Marks
BB2001	Indian System of Business and Banking	100		100
BB2002	Microeconomic and Banking Foundation of Business	100		100
BB2003	Company Accounts	100		100
BB2004	Computer Programming	50	50	100
BB2005	Business Communication	100		100
BB2006	Introduction to Psychology	100		100

Second Year

2014-15

Third Semester

Paper	Nomenclature	Marks	Practical	Total Marks
BB3001	Organizational Behavior	100		100
BB3002	Business Statistics	100		100
BB3003	Basic Costing	100		100
BB3004	Macroeconomic Management	100		100
BB3005	Data Base Management Systems	50	50	100

Fourth Semester

Paper	Nomenclature	Marks	Practical	Total Marks
BB4001	Business Values and Ethics	100		100
BB4002	Indian Business Environment	100		100
BB4003	Business Laws	100		100
BB4004	Business Research Methods	100		100
BB4005	Introduction to Information Technology	50	50	100

Third Year

2015-16

Fifth Semester

Paper	Nomenclature	Marks	Practical	Total Marks
BB5001	Marketing Management	100		100
BB5002	Financial Management	100		100
BB5003	Production Management	100		100
BB5004	Personnel Management	100		100
BB5005	Advanced Information Technology	50	50	100

Sixth Semester

Paper	Nomenclature	Marks	Practical	Total Marks
BB6001	Taxation Laws	100		100
BB6002	Structured System Analysis and Design	50	50	100
BB6003	Fundamentals of International Business	100		100
BB6004	Consumer Protection	100		100

BACHELOR OF BUSINESS ADMINISTRATION (BBA)

First Semester
PRINCIPLES OF MANAGEMENT
PAPER CODE BB1001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I
Concept and Nature of Management:- Significance of Management; Meaning of Management; Changes in Management Concepts; Nature of Management; Management a Science or an Art or a Profession; Functions of Management; Managerial Hierarchy; Management skills; Social Responsibilities and Ethics.

UNIT-II
Management Thought:- Approaches to Management - Max Weber's Bureaucracy; F.W.Tayler's Scientific Management; Henry Fayol's Process and Operational Management; Human Relations Approach; Behavioural Approach; System Approach and Contingency Approach.

UNIT-III
Planning and Decision Making;- Concept, Nature and Elements of Planning; Kinds of Plans; Levels of Planning; Various Stages (steps) in Planning; Decision Making and Process of Rational Decision Making; Concept of Organisational Structure; Bases of Organizing; Delegation and Decentralization of Authority.

UNIT-IV
Leading Management Control:- Meaning and Significance of Leadership; Leadership Styles; Essentials of Successful Leadership; Communications;- Importance and Process of Communication; Barriers to Communications and Overcoming these Barriers; Principles of Effective Communication.
Motivation;- Definition, Motives and Motivation, Models of Motivation-Maslow's Need Hierarchy Model, M.C.Greger's Participation Model, Herzberg's Model Varoom's Model, Alderfer's and McClelland's Models.
Controlling;- Definition and Elements of Control Process; Kinds of Control System; Pre-requisites of Effective Control System; An Overview of Budgetary And Non-Budgetary Control Devices.

BUSINESS MATHEMATICS
PAPER CODE BB1002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT I
Theory of Sets: Meaning, elements; types, presentation and equality of sets. Union, intersection, compliment & difference of sets, Venn diagrams. Cartesian product of two sets. Applications of Set theory.

UNIT II
Indices & Logarithms, Arithmetic, Geometric and Harmonic progressions and their business applications; Sum of squares and cubes of first natural numbers.

UNIT III
Permutations, combinations and Binomial Theorem (positive index).

UNIT IV

Matrices - Types, properties, addition, multiplication, transpose and inverse of matrix. Properties of determinants, solution of simultaneous Linear Equations. Differentiation of Standard Algebraic Functions; Business Applications of Matrices and Differentiation.

FINANCIAL ACCOUNTING
PAPER CODE BB1003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I
Accounting - Meaning, Nature, Functions and Significance. Types of Accounting, Accounting Equation, Concepts & Conventions.

UNIT-II
Review of Accounting cycle: Recording, Posting and Accounting Process, Journal, Ledger, and Trial Balance; Preparation of Trial Balance; Bank Reconciliation Statement,

UNIT-III
Preparation of Final Accounts of Sole Trader.

UNIT-IV
Depreciation Accounting: Concepts and Methods (Straight Line and Written Down Methods only); Receipt and Payments Accounts; Income and Expenditure Accounts.

COMPUTERS IN MANAGEMENT
PAPER CODE BB1004

Marks: 50 **Time: 3Hrs**
Practical: 50

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT I
Introduction to Computers: Classification, Evolution, Computer System Organisation (Hardware, Software & User), Capabilities, Characteristics & Limitations of Computer System, Operating System - Types & Features, Multiprogramming, Multi User system.

UNIT II
Number System & Programming Languages: Binary Number System, Computer Languages and its types, Generation of Computer Languages. Character Codes (ASCII, EBCDIC, ISCII)

UNIT III
Data Processing Cycle, Business Information and Automation, Classification of Information, Characteristics of Information.

UNIT IV
Impact of Computers on Society, Computer Applications in Offices, Communication, Education, Medical field, Banks.

DISASTER MANAGEMENT
PAPER CODE BB1005

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit I
Introduction to Disaster Management- Dimensions of Natural and Anthropogenic Disasters, principles/Components of Disaster Management, Overview of Disaster Manager's tasks, Natural Disasters and Mitigation Efforts, Managing activities during Earthquakes, Floods, Drought, Cyclones, Avalanches, Technological, Landslides, Tornadoes, Avalanches, Heat waves and Global warming, Forest Fires, Oil Fires, Accidents in Coal Mines.

Unit II
Socio-economic Costs of natural disasters, social risk management, social protection, role of cooperation and coordination, Role of states, NGOs and local agencies, Risk Assessment and Disaster Response, Formulation of disaster Risk reduction plans, implementation and monitoring, Insurance and Risk Management, Institution Awareness and Safety programmes.

Unit III
Psychological and social Dimensions in Disasters, Trauma and Stress, Emotional Intelligence, Electronic Warning Systems, Recent Trends in Disaster Information Provider, Geo informatics in Disaster Studies, Remote sensing and GIS Technology, Laser Scanning.

Unit IV
Disaster Management in India Disaster Preparedness, Disaster mitigation, Forecasting and Warning of disasters, Assessing Risk and vulnerability, Rehabilitation of victims, Managing Refugee Camps, and relief workers, Role of Armed Forces/Other agencies in Disaster Management, Role of media in disaster management.

Second Semester

INDIAN SYSTEM OF BUSINESS AND BANKING
PAPER CODE BB2001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I
Introduction: Concept of Business and Business Organisation Forms of Business Organisation, Sole Proprietorship, Partnership, Joint Hindu Family, Cooperative Societies, Joint Stock Companies and Multinational Corporations.

Unit-II
Distribution and Insurance System: Distribution Channel, Life Insurance Corporation of India and General Insurance Corporation of India.

Unit III
Indian Banking System: Reserve Bank of India and Commercial Banking System.

Unit IV
Industrial Financing Institutions, Export-Import Bank of India.

MICROECONOMIC AND BANKING FOUNDATION OF BUSINESS
PAPER CODE BB2002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit I
Nature and scope of economics; functional areas of microeconomics; demand, supply and competitive equilibrium; law of demand; elasticity of demand and supply; consumer's equilibrium – utility and indifference curve approaches.

Unit II
Short and long run production function; laws of return; optimal input combination; cost classification; cost curves and their interrelationships; plant size and economics of scale; location of industries; growth of a business firm-motives and methods; optimum size of the firm.

Unit III
Basic characteristics of perfect competition; monopoly, monopolistic competition and oligopoly; measurement of market concentration and monopoly power; diversification; vertical integration and merger of firms; aspects of non-price competition.

Unit IV
Characteristics of various factors of production; mobility and productivity of factors; determination of rent, interest and wages; alternative theories of profit; marginal productivity theory of distribution.

COMPANY ACCCOUNTS
PAPER CODE BB2003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit I
Accounting for share capital transaction. Issue of shares at par, at premium and at discount. Forfeiture of shares. Re-issue of forfeited shares; Redemption of preference shares.

Unit II
Debentures; Issue of debentures, provision for redemption of debentures and redemption of debentures.

Unit III
Preparation of final accounts of companies having regard to the provisions of companies Act., 1956 in general and Schedule VI to the Companies Act in particular. Underwriting Commission and Underwriting Agreement, Accounting treatment and determination of the liability of underwriters.

Unit IV
Simple problems of amalgamation, Absorption and External Reconstruction.

COMPUTER PROGRAMMING
PAPER CODE BB2004

Marks: 50 **Time: 3Hrs**
Practical: 50

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I
Flowcharts, Algorithm, Decision Table and Decision Tree

Unit-II
Compiler, Interpreter, Assembler, Sorting and Searching Techniques and their Algorithm

Unit-III
Language: Basic structure of a C program, Constants, Variables and Data types, Operators & expressions, I/O Operations, Decision, Branching and Looping

Unit-IV
Arrays, Handling of Character Strings, User-Defined Functions, Storage Classes

BUSINESS COMMUNICATION
PAPER CODE BB2005

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I
Introducing the Concept: Meaning, Nature and scope of communication, Process of Communication, Characteristics of Business Communication, Importance of Effective B.C. Objectives of B.C. Types/Pattern of B.C.; Media/Channels of B.C. Principles of B.C.; Barriers to B.C.

Unit-II
Written Communication-I (a) Business Letter Writing, (b) Business Report Writing, Importance, Need, Types, Techniques, Language, Structure, Planning and Drafting Written Communication-II; (a) Preparing Official Communication, Circular, Notification, Amendment, Press Communiqué, DO letter, Telegram. (b) Writing proposals, Agenda and Minutes of meeting. Dictating: Importance of Dictation, Suggestions
for better dictation, Giving Instructions and Demonstration, Clear Instructions on Individual Jobs, Suggestions for Cutting correspondence costs.

Unit-III
Oral Communication; Communicating with one: Interviewing-Art of effective interviewing, Types of Interviewing, Techniques of Interviewing, Qualities of Interviewer and Interviewer, Planning of Interviewing, Process of Interviewing. Communicating within groups: Presentational speaking-preparation of speech, Presentation of Speech, Guidelines for Effective Speech making. Communicating within groups: Discussion and Conference Participating and leading in conferences, Planning and Procedure of problem-solving conferences. Importance of Body language in interview, Speech and conference

Unit-IV
Audio visual Communication: Role of Audio-Visual Communication, Channels of Audio-Visual Communication, Importance of Body language in non-verbal communication, Graphic Communication, Types of Graphical display, Merits and Demerits of Graphical Display. Role of Public Relation in Business Communication, Objective of P.R., Tools of P.R., Interaction between P.R. and Journalism. Role of Advertisement in Business Communication, Characteristics of Effective Advertisement, Art of Effective Advertisement, Structure of Advertisement Copy, Types of Advertisement copy.

INTRODUCTION TO PSYCHOLOGY
PAPER CODE BB2006

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I
Nature of Psychology: Approaches to Psychology, Scope of Contemporary Psychology, Research Methods in Psychology, Measurement in Psychology, Perceptions; Concept, Process, Absolute Threshold, Differential, Subliminal Perception. Dynamics of Perception: Perceptual Selection, Organisation and Interpretation.

Unit-II
Learning and Memory: Classical conditioning, Operant Conditioning, Concept of reinforcement, Cognitive learning, Shortterm memory, Long-term memory, Improving memory.

Unit-III
Personality and its assessment: Shaping of personality-Trait Approach, Social approach, Psychoanalytic approach, Phenomenological approach, Personality assessment.

Unit-IV
Emotion: Theories of Emotions, Optimal level of arousal, Stress Frustration, Reaction of Frustration, Anxiety, Defence Mechanism Stress, Attitude formation and change

Third Semester
ORGANISATIONAL BEHAVIOUR
PAPER CODE BB3001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I
Introduction:- The field of Organisational Behaviour Reasons to study O.B. Foundations and Background of OB, Approaches to OB, Contributing discipline to OB Field.

UNIT-II
Industrial Behaviour: Individual differences – Abilities, intelligence; personality- Meaning, development of personality, personality traits, major determinants. Perception- Nature, importance, perceptual selectivity, perceptual Organisation, social perception; Attitudes- Nature, dimensions, importance; Job Satisfaction – importance, sources & consequences.

UNIT-III
Motivation and Learning:- Motivation – Meaning; motives, process content theories and process theories of motivation, relationship between motivation and performance learning – Meaning, types; Theories of learning, Reinforcement, Law of effect, punishment.

UNIT-IV
Group Behaviour:- Group – Concept, nature, classification; stages of group development, Group dynamics; Group Behaviour; Group structure, task & processes; Group cohesiveness; Dynamics of informal groups; Group decision – making.

BUSINESS STATISTICS
PAPER CODE BB3002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Data Classification, Tabulation and Presentation: Meaning, objectives and types of classification, formation of frequency, Role of tabulation, types of tables, significance of diagram and graphs.

UNIT-II

Measures of Central Tendency and Dispersion: Meaning, and objectives of measures of Central Tendency, different measure viz. Arithmetic mean, Median, Mode, Geometric Mean and Harmonic Mean, characteristics, applications and limitations of these measures. Measures of variation viz. Range, Quartile Deviation Mean Deviation, Standard Deviation, Co-efficient of Variation and Skew ness.

UNIT-III

Correlation and Regression: Meaning of Correlation, types of Correlation: Positive and Negative Correlation, Simple, Partial and Multiple Correlation, Methods of studying Correlation; Scatter diagram, graphic and direct method. Properties of Correlation Co-efficient, Rank Correlation, Co-efficient of Determination, Lines of Regression, Co-efficient of Regression, Standard Error of Estimate.

UNIT-IV

Index Numbers and Time Series: Index Number and their uses in business. Construction of simple and weighed price, quantity and value index numbers Test for an ideal index numbers, Components of Time Series viz. Secular Trend, Cyclical, Seasonal and Irregular Variations, methods of Estimating Secular Trend. Seasonal Indices and its use in Business Forecasting and Limitations, Calculating Growth Rate in Time Series.

BASIC COSTING
PAPER CODE BB3003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Introduction: Objectives, Elements of cost, Cost Sheet, Importance of Cost Accounting, Types of Costing, Installation of Costing System, Difference between Cost Accounting and Financial Accounting.

UNIT-II

Material and Labour Cost Control: Meaning and objectives of Material control, Material Purchase Procedure, Fixation of Inventory levels – Reorder level, EOQ, Minimum level, Maximum level, Danger level and Methods of Valuing Material Issues – FIFO, LIFO, HIFO, NIFO. Labour and Cost Control; its importance, Methods of Time Keeping and Time Booking. Treatment and Control of Labour Turnover, Idle Time, Overtime, Systems of Wage Payment – Time Wage System, Piece Wage System and Balance or Debt
Method.

UNIT-III

Overheads – Classification, Allocation and Apportionment of Overheads. Absorption of Overheads, Under – Absorption and Over Absorption.

UNIT-IV

Methods of Costing – Job, Batch, Contract and Process Costing excluding Evaluation of work in progress.

MACROECONOMIC MANAGEMENT
PAPER CODE BB3004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I
Nature and scope of macroeconomics; functional areas of macroeconomic management; circular flow of income; national income accounting – alternative concepts and measures of national income and their interrelationship; stock and flow variables; aggregate demand; supply and macroeconomic equilibrium; nature of a trade cycle, causes of booms and recessions.

UNIT-II
Macro analysis of consumer behaviour; cyclical and secular consumption income relationship; absolute, relative and permanent income hypotheses; other factors affecting aggregate consumption; simple Keynesian model of income determination; multiplier analysis

UNIT-III
Functional areas of fiscal management; nature of fiscal policy fiscal deficits; fiscal policy in relation to growth and price stability; basic issues in fiscal deficit management; nature and management of public debt; business taxes – types, rationale and incidence.

UNIT-IV
Functional areas of monetary management; money supply measures; money creation process and money multiplier; instruments of monetary control; promotional and regulatory role of central banking and monetary policy; inflation management.

DATA BASE MANAGEMENT SYSTEMS
PAPER CODE BB3005

Marks: 50 **Time: 3Hrs**
Practical:50

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I
Concept of Data Base, Objectives of Data Base, Advantages and Limitations of Data Base, Entities, Attributes, Relationships (I:I, I:M, M:M)

UNIT-II
Schema, Subschema, Data base Administration, 4GL, SQL

UNIT-III
Introduction to Data Models, Hierarchical, Relational & Network Data Models.

UNIT-IV
Distributed Data Base System, Backup & recovery procedures in Data Base System, Normalization in Relational Data Base.

Fourth Semester

BUSINESS VALUES AND ETHICS
PAPER CODE BB4001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I
Meaning and Nature of Values; Values in context of Business; Mission Statament and Role of Corporate Values in shaping it; influence of Individual Values on Morality of Managers; Indian Values and Changing Value systems of India.

Unit-II
Ethics; Evolution of Ethics and their relation to values, norms, morals. Nature of Ethics and Relevance to Business; Virtue theory; Utilitarianism and its Applications to Business; Rights; Justice; Profit Maximization vis-à-vis Ethics.

Unit-III
Contemporary Issues: Workplace Spirituality; Indian Ethos for Business; Vedanta and Managers. Corporate Social Responsibility: Public Policy of a Corporation and its role in a market society; the nature of an ethical corporation; concept of Total Ethical Management.

Unit-IV
Ethical Responsibilities of Business towards customers; Ethical Issues in Marketing; Issues relating to Product Safety, Product Quality, Pricing and Promotion. Ethical Responsibility of Business towards employees; wistleblowing; the changing workplace; employees discrimination; harassment of female workforce; rights and obligations of employees and employers.

INDIAN BUSINESS ENVIRONMENT
PAPER CODE BB4002

Marks: 100

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I
Nature, components and determinants of business environment; basic nature of Indian economic system; relation size and growth of public and private corporate sector; social responsibility of business; broad features of India's now economic policy.

Unit-II
Trend and pattern of industrial growth; review of industrial policy developments; industrial licensing policy; liberalization of the private sector; trends and issues in corporate management; growth and problems of the small scale sector; public sector reforms and privatization the problem of industrial sickness; MRTP Act, SICA and Industrial Disputes Act.

Unit-III
Development banks for corporate Sector (IDBI, IFCI, ICICI)- trends pattern and policy; regulation of stock exchanges and the role of SEBI; banking sector reforms; challenges facing public sector banks; growth and changing structure of non bank financial institutions; problem of non performing assets in Indian Banks.

Unit-IV
Trend and pattern of India's foreign trade and balance of payments; latest EXIM policy-main features; policy towards foreign direct investment; globalization trends in Indian economy; role of MNCs; India's policy commitments to multilateral institutions- IMF, World Bank and WTO.

BUSINESS LAWS
PAPER CODE BB4003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I

The Indian Contract Act, 1872. Essentials of a valid contract Void Agreements. Performance of Contracts. Breach of contrat and its remedies. Qasi-contracts.

Unit-II

The sale of Goods Act, 1930: Formation of contract; Conditions and warranties. Transfer of property. Performance of contract: Rights of an unpaid seller.

Unit-III

The Negotiable Instruments Act, 1881: Nature and types, Negotiation and Assignment. Holder-in-Due Course, Dishonour and Discharge of a Negotiable Instrument.

Unit-IV

The Companies Act, 1956. Nature and types of Companies, Formation, Memorandum and Articles of Association, Prospectus. Allotment of Shares. Shares and Share capital, Membership, Borrowing powers, Management and meetings, winding up.

BUSINESS RESEARCH METHODS
PAPER CODE BB4004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I

Decisional Research: Definition and Scope; Role of Decision maker and research; Identification of problems; decision steps and research objectives, uncertainty and decision research, Research Design: Descriptive, Exploratory, Descriptive, Diagnostic and Experimental.

Unit-II

Data Collection: Secondary and Primary Data sources; Techniques of Data Collection; Sampling: Procedure, Probability and Non-probability sampling; Sampling errors; Tabulation of Data; Attitude Scales and measurement of attitude.

Unit-III

Data Analysis: Interpretation and presentation; basic consideration in choice of analysis and statistical techniques; hypothesis testing; tests of significance; chi-square analysis.

Unit-IV

Report Writing: Substance of Research Based Reports, Formats of reports, Report writing Technique and Final Presentationof the report.

INTRODUCTION TO INFORMATION TECHNOLOGY
PAPER CODE BB4005

Marks: 50 **Time: 3Hrs**
Practical:50

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I
Introduction to Networks: User of a Network, Categories of Networks, Topologies, Network Media & Hardware, Network Software.

Unit-II
Word Processor: Advantage, Entering Text, Editing Text, Formating Text, Mail Merge

Unit-III
Electronic Spreadsheets: Advantages, Application Areas, Creating a Worksheet, Functions, Types of Graphs, Creating Graphs, Formatting Cells, Macros.

Unit-IV
Introduction to Internet: Background & History, Working, Major Features, Accessing the Internet, Major Application Areas, Introduction to Multimedia.

Fifth Semester

MARKETING MANAGEMENT
PAPER CODE BB5001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I
Introduction to Marketing; Core concepts of marketing; Orientation towards market place; Difference between Marketing and Selling; Marketing Process; Marketing Environment.

UNIT-II
Determinants of consumer behaviour; Consumer's Purchase decision process; Market Segmentation and Target Marketing; Marketing Research; Marketing Information System; Planning of Marketing Mix.

UNIT-III
Product decisions; Branding and Packaging decision; Product Life Cycle; Pricing strategy.

UNIT-IV
Selecting and Managing Marketing channels; Retailing, Wholesaling and Physical Distribution; Communication and Promotion mix; Designing Effective Advertising Program; Sales Promotion.

FINANCIAL MANAGEMENT
PAPER CODE BB5002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I
Evolution, Scope and function of Finance Managers, Objectives of the firm; Profit Vs Wealth Maximization.

UNIT-II
Investment Decisions; Brief Introduction of Cost of Capital; Methods of Capital Budgeting; ARR.PBP. NPV and IRR, Capital Rationing, (Simple problems on Capital Budgeting Methods)

UNIT-III
Financing Decision: Financial Leverage; Capital Structure Theories: NI, NOI and Traditional approach; EPS-EBIT Analysis; Brief discussion on sources of long term finances.

UNIT-IV
Dividend decision and Management of Working Capital: Determinants of Dividend Policy; Walter's Dividend Model; Working Capital of Concept and Operating Cycle Method, Brief discussion on Management of Cash, Receivable and Inventory. (Simple problem on operating cycle and Inventory Management).

PRODUCTION MANAGEMENT
PAPER CODE BB5003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I
Production/Operations Management: Introduction, Major decisions; objectives and activities; Difference between products and services (from POM view point). Characteristics of a production system.

UNIT-II
Types of production systems: Production to order and production to stock; Plant Location: Factors affecting locations & evaluating different locations; Plant Layout: Meaning, objectives, characteristics and types; Plant layout and materials handling.

UNIT-III
Production Planning and Control: Meaning, objectives, advantages and elements, PPC and production systems, Aggregate planning and Master production Schedules, Sequencing and assignment problems. Motion and Time Study.

UNIT-IV
Inventory Control: Objectives, advantages and techniques (EOQ Model and ABC Analysis). Quality Control: Meaning and importance; Inspection, quality control charts for variables & attributes and Acceptance Sampling; Maintenance; Meaning; importance and types.

PERSONNEL MANAGEMENT
PAPER CODE BB5004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Personnel Management: Definition, Nature, Objectives Changing Scope of Personnel Management. Challenges to modern personnel management, Personnel Management environment in India, Role of Personnel Management in Organisation, Personnel functions, personnel policies.

UNIT-II

Procurement: Job analysis, job description, job specification, Human Resource Planning – Significance & Process, Recruitment – Sources & methods, Selection criteria and process, induction training.

UNIT-III

Development: Concepts of Training and Development, Need for and benefits of training, Assessing training needs, training techniques, Management Development – Nature & purpose, Approaches for developing managers – Job Rotation, Coaching, Junior Board & Case method, Role playing, Management Games, Career planning, Managing promotions & transfers.

UNIT-IV

Compensation: Objectives, Compensation, Factors influencing compensation, components of pay structure, Methods of pay fixation, Incentives-financial, Incentives for the employees, managers, Organisation wide Incentive plans, employee benefits & services, performance appraisal-techniques, problems and issues.

ADVANCED INFORMATION TECHNOLOGY
PAPER CODE BB5005

Marks: 50 **Time: 3Hrs**
Practical:50

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Internet: Concepts, Internet Service Provider, Setting Windows Environment for Dialup, Networking, Dialing of Networks, Search Engine Concept, Searching Web using Search Engines, Audio on Internet, Adding File Types in MS Internet Explorer, Subscribing to News Groups.

UNIT-II

Intranet: Intranet Concepts and Architecture; Building Corporate Wide Web, The HTTP Protocols (Understanding Application Layers), Intranet Infrastructure, Fundamental of TCP/IP (Understanding transport layers), Intranet Connectivity, Intranet Security Design, Intranet as Business tool, Future of Intranet, Costs of Intranet, Protocols of Communications.

UNIT-III

Introduction of MS-Back Office, Electronic Communication, ISP Type of Accounts, Tools; Sending & receiving mails, Electronic Tele & Video Conferences.

UNIT-IV

Multimedia – Introduction, Tools & Technique, Multimedia – Hardware (Windows, Production Platforms & Peripherals), Multimedia – Software (Authorizing Tools), Multimedia Building Blocks (Text, Sound, Images, Animation, Video), Assembling & Developing the projects.

Sixth Semester

TAXATION LAWS
PAPER CODE BB6001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I

Basic concepts of Income Tax, Residential Status and Tax incidence, Income Exempted from Tax.

Unit-II

Income from salaries, Income from House property and Income from Profits & Gains of Business and profession.

Unit-III

Income from capital Gains, Income from other sources; Set off and carry forward of Losses; Clubbing of Income.

Unit-IV

Deductions from Gross Total Income, Assessment of Individuals, HUF and Firms.

STRUCTURED SYSTEM ANALYSIS AND DESIGN
PAPER CODE BB6002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I

Introduction to Analysis & Design: SDLC, CASE tools for Analyst, Role of System Analyst, ER Data Models, Feasibility Study – Economic, Technical, Operational.

Unit-II

Design of Application: DFDs, Form Design, Screen Design, Report Design, Structure Chart, Data Requirements, Data Base Definition, Equipment Specification & Selection, Personnel Extimates, I-O Design, Storage Requirements.

Unit-III

Implementation & Installation: Data Dictionary, Structured English, Decision Tables, Decision Trees, Installation Types,Logical Design to Physical Implementation.

Unit-IV

Introduction to Distributed Data Processing & Real Time System: Evaluating Distributing System, Designing Distributed Data Bases, Event Based Real time Analysis Tools, State Transition Diagrams.

FUNDAMENTALS OF INTERNATIONAL BUSINESS
PAPER CODE BB6003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I

Nature and main fields of International Business; Domestic versus Interntional Business; major risks and challenges of IB; International business environment – components and determinants; the process of internationalisation of business; concept of globalisation; balance of payments accounting; basic nature of foreign exchange market.

Unit-II

Nature of multinational enterprise and foreign direct investment; basic motives and determinants of foreign direct investment; methods & forms of international business entry; strategic orientation of MNCs; basics of MNE strategy frmulation and implementation.

Unit-III

International trade theory – the theory of absolute advantage; theory of comparative advantage; factor endowment theory and international product life-cycle theory; tariff and non-tariff barriers to international trade; international logistic decisions; major trade documents; main intermediaries in international trade.

Unit-IV

Assessing international markets; designing products for foreign markets; branding decisions; promotional decisions; pricing decision; basic methods of international payment. Regulation of international business – a overview of the role of WTO, IMF, UNCTAD and World Bank.

CONSUMER PROTECTION
PAPER CODE BB6004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

Unit-I

Concept of consumer, Types of consumers; need for consumer protection; methods of consumer protection – legal and voluntary; consumer buying motives; doctines of caveat emptor and caveat venditor; Concept of consumer's sovereignty

Unit-II

Measures for consumer protection in India; basic provisions of the consumer Protection Act., 1986; consumer rights; Organisational set up – National and State Consumer Protection Councils; District Forum, State Commission and National Commission; their functions, powers and jurusdiction, Grounds of filing complaint; procedure of filing a complaint; relief available

Unit-III

Consumer protection measures under the Monopolies and Restrictive Trade Practices Act., 1969; concept and remedyagainst unfair trade practices and restrictive trade practices; consumers; roles and rights under the MRTP Act

Unit-IV

Recent developments in consumer protect ion movement in India; role of voluntary consumer Organisations product testing; growing consumer awareness role of the media and Government; formation and registration of a voluntary consumer Organisation; business self-regulation; Advertising Standards Council of India.

Scheme of Examination
Bachelor of Computer Applications (BCA)
Three Year Programme (Semester System)

2013-14

First Year

First Semester

Paper	**Nomenclature**	**Marks**
BC1001	Computer & Programming Fundamentals	100
BC1002	PC Software	100
BC1003	Mathematics	100
BC1004	Logical Organization of Computer-I	100
BC1005	Practical software Lab – Based on paper BC1002 i.e Word, Excel and Power point	100

Second Semester

Paper	**Nomenclature**	**Marks**
BC1006	'C' Programming	100
BC1007	Logical Organization of Computer-II	100
BC1008	Mathematical Foundations of Computer Science	100
BC1009	Structured System Analysis and Design	100
BC1010	Practical software Lab – Based on paper BC1006, i.e.'C' Programming	100
BC1011	Environment Studies(qualifying subject)*	100

Important Note: *The Environmental studies is a qualifying paper for all UG Courses. Students are required to qualify the same, otherwise final result will not be declared and degree will not be awarded.

Second Year

2014-15

Third Semester

Paper	**Nomenclature**	**Marks**
BC2001	Introduction to Operating System	100
BC2002	DATA STRUCTURES – I	100
BC2003	Introduction to database system	100
BC2004	Communication skills (English)	100
BC2005	Practical software Lab – Based on paper BC2002 & 2003 using C Language and SQL	100

Fourth Semester

Paper	**Nomenclature**	**Marks**
BC2006	WEB DESIGNING	100
BC2007	DATA STRUCTURES – II	100
BC2008	Object Oriented Programming Using C++	100
BC2009	Software Engineering	100
BC2010	Practical software Lab– Based on paper BC2006 & 2008, i.e.HTML and C++ Programming	100

Third Year

2015-16

Fifth Semester

Paper	**Nomenclature**	**Marks**
BC3001	Management information system	100
BC3002	Computer Graphics	100
BC3003	Data Communication and Networking	100
BC3004	Visual Basic	100
BC3005	Practical software Lab– Based on paper BC3002 &3004 i.e. Visual Basic	100

Sixth Semester

Paper Code	**Nomenclature**	Marks
BC3006	E-Commerce	100
BC3007	Object Technologies & Programming using Java	100
BC3008	Artificial Intelligence	100
BC3009	Introduction to .NET	100
BC3010	Practical software Lab– Based on paper BC3007 & 3009 Using Java & .NET	100

BACHELOR OF COMPUTER APPLICATIONS (BCA)
First Semester

COMPUTER & PROGRAMMING FUNDAMENTALS
PAPER CODE: BC1001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Computer Fundamentals: Generations of Computers, Definition, Block Diagram along with its components, characteristics & classification of computers, Limitations of Computers, Human-Being VS Computer, Applications of computers in various fields.

Memory: Concept of primary & secondary memory, RAM, ROM, types of ROM, Cache Memory, flash memory, Secondary storage devices: Sequential & direct access devices viz. magnetic tape, magnetic disk, optical disks i.e. CD, DVD, virtual memory.

UNIT-II

Computer hardware & software: I/O devices, definition of software, relationship between hardware and software, types of software.

Overview of operating system: Definition, functions of operating system, concept of multiprogramming, multitasking, multithreading, multiprocessing, time-sharing, real time, single-user & multi-user operating system.

Computer Virus: Definition, types of viruses, Characteristics of viruses, anti-virus software.

UNIT-III

Computer Languages: Analogy with natural language, machine language, assembly language, high-level languages, forth generation languages, compiler, interpreter, assembler, Linker, Loader , characteristics of a good programming language, Planning the Computer Program: Concept of problem solving, Problem definition, Program design, Debugging, Types of errors in programming, Documentation.

Structured programming concepts, Programming methodologies viz. top-down and bottom-up programming, Advantages and disadvantages of Structured programming.

UNIT-IV

Overview of Networking: An introduction to computer networking, Network types (LAN, WAN, MAN), Network topologies, Modes of data transmission, Forms of data transmission, Transmission channels(media), Introduction to internet and its uses, Applications of internet, Hardware and Software requirements for internet, Intranet, Applications of intranet.

REFERENCE BOOKS

1. Balagurusamy E, Computing Fundamentals and C Programming, Tata McGraw Hill.
2. Norton, Peter, Introduction to Computer, McGraw-Hill
3. Leon, Alexis & Leon, Mathews, Introduction to Computers, Leon Tech World
4. Rajaraman, V., Fundamentals of Computers, PHI
5. Ram, B., Computer Fundamentals, Architecture & Organization, New Age International (P) Ltd.
6. Chhillar, Rajender Singh: Application of IT to Business, Ramesh Publishers, Jaipur.
7. Gill, Nasib Singh: Essentials of Computer and Network Technology, Khanna Books Publishing Co., New Delhi

Note: Latest and additional good books may be suggested and added from time to time.

PC SOFTWARE
PAPER CODE: BC1002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT - I

MS-Windows: Operating system-Definition & functions, basics of Windows. Basic components of windows, icons, types of icons, taskbar, activating windows, using desktop, title bar, running applications, exploring computer, managing files and folders, copying and moving files and folders. Control panel – display properties, adding and removing software and hardware, setting date and time, screensaver and appearance. Using windows accessories.

UNIT - II

Documentation Using MS-Word - Introduction to word processing interface, Toolbars, Menus, Creating & Editing Document, Formatting Document, Finding and replacing text, Format painter, Header and footer, Drop cap, Auto-text, Autocorrect, Spelling and Grammar Tool, Document Dictionary, Page Formatting, Bookmark, Previewing and printing document, Advance Features of MS-Word-Mail Merge, Macros, Tables, File Management, Printing, Styles, linking and embedding object, Template.

UNIT - III

Electronic Spread Sheet using MS-Excel - Introduction to MS-Excel, Cell, cell address, Creating & Editing Worksheet, Formatting and Essential Operations, Moving and copying data in excel, Header and footer, Formulas and Functions, Charts, Cell referencing, Page setup, Macros, Advance features of MS-Excel-Pivot table & Pivot Chart, Linking and Consolidation, Database Management using Excel-Sorting, Filtering, Validation, What if analysis with Goal Seek, Conditional formatting.

UNIT - IV

Presentation using MS-PowerPoint: Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts, Word Art, Layering art Objects, Animations and Sounds, Inserting Animated Pictures or Accessing through Object, Inserting Recorded Sound Effect or In-Built Sound Effect.

TEXT BOOKS

1. Microsoft Office – Complete Reference – BPB Publication
2. Learn Microsoft Office – Russell A. Stultz – BPB Publication

REFERENCES BOOKS

1. Courter, G Marquis (1999). Microsoft Office 2000: Professional Edition. BPB.
2. Koers, D (2001). Microsoft Office XP Fast and Easy. PHI.
3. Nelson, S L and Kelly, J (2002). Office XP: The Complete Reference. Tata McGraw-Hill.

Note: Latest and additional good books may be suggested and added from time to time.

MATHEMATICS
PAPER CODE: BC1003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT I

SETS: Sets, Subsets, Equal Sets Universal Sets, Finite and Infinite Sets, Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set, Simple Applications.

DETERMINANTS: Definition, Minors, Cofactors, Properties of Determinants, Applications of determinants in finding area of triangle, Solving a system of linear equations.

MATRICES: Definition, Types of Matrices, Addition, Subtraction, Scalar Multiplication and Multiplication of Matrices, Adjoint, Inverse, solving system of linear equation Cramer's Rule.

UNIT II

RELATIONS AND FUNCTIONS: Properties of Relations, Equivalence Relation, Partial Order Relation Function: Domain and Range, Onto, Into and One to One Functions, Composite and Inverse Functions.

LIMITS & CONTINUITY: Limit at a Point, Properties of Limit, Computation of Limits of Various Types of Functions, Continuity of a function at a Point, Continuity Over an Interval, Sum, product and quotient of continuous functions, Intermediate Value Theorem, Type of Discontinuities.

UNIT III

DIFFERENTIATION: Derivative of a function, Derivatives of Sum, Differences, Product & Quotient of functions, Derivatives of polynomial, trigonometric, exponential, logarithmic, inverse trigonometric and implicit functions, Logarithmic Differentiation, Chain Rule and differentiation by substitution.

UNIT IV

INTEGRATION: Indefinite Integrals, Methods of Integration by Substitution, By Parts, Partial Fractions, Integration of Algebraic and Transcendental Functions, Reduction Formulae for simple and Trigonometric Functions, Definite Integral as Limit of Sum, Fundamental Theorem of Integral Calculus, Evaluation of definite integrals by substitution, using properties of definite integral,

TEXT BOOKS

1. C.L.Liu: Elements of Discrete Mathematics, McGraw Hill.
2. Lipschutz, Seymour: Discrete Mathematics, Schaum's Series
3. Babu Ram: Discrete Mathematics, Vinayek Publishers, New Delhi.
4. Trembley, J.P & R. Manohar: Discrete Mathematical Structure with Application to Computer Science, TMH.
5. Kenneth H. Rosen: Discrete Mathematics and its applications, TMH.
6. Doerr Alan & Levasseur Kenneth: Applied Discrete Structures for Computer Science, Galgotia Pub. Pvt. Ltd.
7. Gersting: Mathematical Structure for Computer Science, WH Freeman & Macmillan.
8. Hopcroft J.E, Ullman J.D.: Introduction to Automata theory, Languages and Computation, Narosa Publishing House, New Delhi.

Note: Latest and additional good books may be suggested and added from time to time.

LOGICAL ORGANIZATION OF COMPUTER-I
PAPER CODE: BC1004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT - I

Information Representation: Number Systems, Binary Arithmetic, Fixed-point and Floating-point representation of numbers, BCD Codes, Error detecting and correcting codes, Character Representation – ASCII, EBCDIC, Unicode

UNIT - II

Binary Logic: Boolean Algebra, Boolean Theorems, Boolean Functions and Truth Tables, Canonical and Standard forms of Boolean functions, Simplification of Boolean Functions – Venn Diagram, Karnaugh Maps.

UNIT - III

Digital Logic: Introduction to digital signals, Basic Gates – AND, OR, NOT, Universal Gates and their implementation – NAND, NOR, Other Gates – XOR, XNOR etc. NAND, NOR, AND-OR-INVERT and OR-AND-INVERT implementations of digital circuits, Combinational Logic – Characteristics, Design Procedures, analysis procedures, Multilevel NAND and NOR circuits.

UNIT - IV

Combinational Circuits: Half-Adder, Full-Adder, Half-Subtractor, Full-Subtractor, Parallel binary adder/subtractor, Encoders, Decoders, Multiplexers, Demultiplexers, Comparators, Code Converters, BCD to Seven-Segment Decoder.

TEXT BOOKS

1. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd.
2. V. Rajaraman, T. Radhakrishnan, An Introduction to Digital Computer Design, Prentice Hall of India Pvt. Ltd.

REFERENCE BOOKS

1. Andrew S. Tanenbaum, Structured Computer Organization, Prentice Hall of India Pvt. Ltd.
2. Nicholas Carter, Schaum's Outlines Computer Architecture, Tata McGraw-Hill

Note: Latest and additional good books may be suggested and added from time to time.

Practical- Software lab
PAPER CODE: BC1005

(Based on paper BC1002 i.e. Word, Excel and Power point)

Second Semester
'C' PROGRAMMING
PAPER CODE: BC1006

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Overview of C: History of C, Importance of C, Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant, Structure of a C Program, printf(), scanf() Functions, Operators & Expression: Arithmetic, relational, logical, bitwise, unary, assignment, shorthand assignment operators, conditional operators and increment and decrement operators, Arithmetic expressions, evaluation of arithmetic expression, type casting and conversion, operator hierarchy & associativity.

UNIT-II

Decision making & branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, goto statement.

Decision making & looping: For, while, and do-while loop, jumps in loops, break, continue statement, Nested loops.

UNIT-III

Functions: Standard Mathematical functions, Input/output: Unformatted & formatted I/O function in C, Input functions viz. getch(), getche(), getchar(), gets(), output functions viz., putch(), putchar(), puts(), string manipulation functions.

User defined functions: Introduction/Definition, prototype, Local and global variables, passing parameters, recursion.

UNIT-IV

Arrays, strings and pointers: Definition, types, initialization, processing an array, passing arrays to functions, Array of Strings. String constant and variables, Declaration and initialization of string, Input/output of string data, Introduction to pointers.

Storage classes in C: auto, extern, register and static storage class, their scope, storage, & lifetime.

Algorithm development, Flowcharting and Development of efficient program in C.

TEXT BOOKS

1. Gottfried, Byron S., Programming with C, Tata McGraw Hill
2. Balagurusamy, E., Programming in ANSI C, 4E, Tata McGraw-Hill

REFERENCE BOOKS

1. Jeri R. Hanly & Elliot P. Koffman, Problem Solving and Program Design in C, Addison Wesley.
2. Yashwant Kanetker, Let us C, BPB.
3. Rajaraman, V., Computer Programming in C, PHI.
4. Yashwant Kanetker, Working with C, BPB.

Note: Latest and additional good books may be suggested and added from time to time.

LOGICAL ORGANIZATION OF COMPUTER-II
PAPER CODE: BC1007

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT - I

Sequential Logic: Characteristics, Flip-Flops, Clocked RS, D type, JK, T type and Master-Slave flip-flops. State table, state diagram and state equations. Flip-flop excitation tables

UNIT - II

Sequential Circuits: Designing registers – Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO), Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO) and shift registers. Designing counters – Asynchronous and Synchronous Binary Counters, Modulo-N Counters and Up-Down Counters

UNIT - III

Memory & I/O Devices: Memory Parameters, Semiconductor RAM, ROM, Magnetic and Optical Storage devices, Flash memory, I/O Devices and their controllers.

UNIT - IV

Instruction Design & I/O Organization: Machine instruction, Instruction set selection, Instruction cycle, Instruction Format and Addressing Modes. I/O Interface, Interrupt structure, Program-controlled, Interrupt-controlled & DMA transfer, I/O Channels, IOP.

TEXT BOOKS

1. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd.
2. V. Rajaraman, T. Radhakrishnan, An Introduction to Digital Computer Design, Prentice Hall of India Pvt. Ltd.

REFERENCE BOOKS

1. Andrew S. Tanenbaum, Structured Computer Organization, Prentice Hall of India Pvt. Ltd.
2. Nicholas Carter, Schaum's Outlines Computer Architecture, Tata McGraw-Hill

Note: Latest and additional good books may be suggested and added from time to time.

MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE
PAPER CODE: BC1008

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Basic Statistics: Measure of Central Tendency, Preparing frequency distribution table, Mean, Mode, Median, Measure of Dispersion: Range, Variance and Standard Deviations, Correlation and Regression.

UNIT-II

Algorithm: Algorithms, merits and demerits, Exponentiation, How to compute fast exponentiation. Linear Search, Binary Search, "Big Oh" notation, Worst case, Advantage of logarithmic algorithms over linear algorithms, complexity.

Graph Theory: Graphs, Types of graphs, degree of vertex, sub graph, isomorphic and homeomorphic graphs, Adjacent and incidence matrices, Path Circuit ; Eulerian, Hamiltonian path circuit.

UNIT-III

Tree: Trees, Minimum distance trees, Minimum weight and Minimum distance spanning trees.

Recursion: Recursively defined function.

Merge sort, Insertion sort, Bubble sort, and Decimal to Binary.

UNIT-IV

Recurrence Relations: LHRR, LHRRWCCs, DCRR. Recursive procedures.

Number Theory: Principle of Mathematical induction**,** GCD, Euclidean algorithm, Fibonacci numbers, congruences and equivalence relations, public key encryption schemes.

REFERENCE BOOKS

1. Gupta S.P. and Kapoor, V.K., Fundamentals of Applied statistics, Sultan Chand & Sons, 1996.
2. Gupta S.P. and Kapoor, V.K., Fundamentals of Mathematical statistics, Sultan Chand and Sons, 1995.
3. Graybill, Introduction to Statistics, McGraw.
4. Anderson, Statistical Modelling, McGraw.
5. Babu Ram : Discrete Mathematics

Note: Latest and additional good books may be suggested and added from time to time.

STRUCTURED SYSTEM ANALYSIS AND DESIGN
PAPER CODE: BC1009

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Introduction to system, Definition and characteristics of a system, Elements of system, Types of system, System development life cycle, Role of system analyst, Analyst/user interface, System planning and initial investigation: Introduction, Bases for planning in system analysis, Sources of project requests, Initial investigation, Fact finding, Information gathering, information gathering tools, Fact analysis, Determination of feasibility.

UNIT-II

Structured analysis, Tools of structured analysis: DFD, Data dictionary, Flow charts, Gantt charts, decision tree, decision table, structured English, Pros and cons of each tool, Feasibility study: Introduction, Objective, Types, Steps in feasibility analysis, Feasibility report, Oral presentation, Cost and benefit analysis: Identification of costs and benefits, classification of costs and benefits, Methods of determining costs and benefits, Interpret results of analysis and take final action.

UNIT-III

System Design: System design objective, Logical and physical design, Design Methodologies, structured design, Form-Driven methodology(IPO charts), structured walkthrough, Input/Output and form design: Input design, Objectives of input design, Output design, Objectives of output design, Form design, Classification of forms, requirements of form design, Types of forms, Layout considerations, Form control.

UNIT-IV

System testing: Introduction, Objectives of testing, Test plan, testing techniques/Types of system tests, Quality assurance goals in system life cycle, System implementation, Process of implementation, System evaluation, System maintenance and its types, System documentation, Forms of documentation.

REFERENCE BOOKS:

1. Systems Analysis and design BY e.m. aWAD Galgotia Pub.(P) Ltd.
2. Data Management and Data Structures by Loomis (PHI)
3. System Analysis and Design by Elias Awad.
4. Introductory System analysis and Design by Lee Vol. I & II

Note: Latest and additional good books may be suggested and added from time to time.

Practical- Software lab
PAPER CODE: BC1010

(Based on paper BC-1006 i.e. C Programming)

ENVIRONMENT STUDIES (Qualifying Subject)
PAPER CODE: BC1011

Marks: 100 **Time: 3Hrs**

Third Semester

Introduction to Operating System
PAPER CODE: BC2001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT – I

Fundamentals of Operating system: Introduction to Operating System, its need and operating System services, Early systems, Structures - Simple Batch, Multi programmed, timeshared, Personal Computer, Parallel, Distributed Systems, Real-Time Systems.

Process Management: Process concept, Operation on processes, Cooperating Processes, Threads, and Inter-process Communication.

UNIT-II

CPU Scheduling: Basic concepts, Scheduling criteria, Scheduling algorithms : FCFS, SJF, Round Robin & Queue Algorithms.

Deadlocks: Deadlock characterization, Methods for handling deadlocks, Banker'sAlgorithm.

UNIT-III

Memory Management: Logical versus Physical address space, Swapping, Contiguous allocation, Paging, Segmentation.

Virtual Memory: Demand paging, Performance of demand paging, Page replacement, Page

replacement algorithms, Thrashing.

UNIT-IV

File management: File system Structure, Allocation methods: Contiguous allocation, Linked allocation, Indexed allocation, Free space management: Bit vector, Linked list, Grouping, Counting.

Device Management: Disk structure, Disk scheduling: FCFS, SSTF, SCAN, C-SCAN, LOOK, C-LOOK.

Suggested Readings

1. Abraham Silberschatz, Peter B. Galvin, " Operating System Concepts", Addison-Wesley publishing. Co., 7th. Ed., 2004.
2. Nutt Gary, "Operating Systems", Addison Wesley Publication, 2000.
3. Andrew S. Tannenbaum, "Modern Operating Systems", Pearson Education Asia, Second Edition, 2001.
4. William Stallings, "Operating Systems, "Internals and Design Principles", 4th Edition, PH, 2001.
5. Ekta Walia, "Operating Systems Concepts", Khanna Publishes, New Delhi, 2002.

Note: Latest and additional good books may be suggested and added from time to time.

DATA STRUCTURES – I
PAPER CODE: BC2002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT – I

Introduction: Elementary data organization, Data Structure definition, Data type vs. data structure, Categories of data structures, Data structure operations, Applications of data structures, Algorithms complexity and time-space tradeoff, Big-O notataion.

Strings: Introduction, Storing strings, String operations, Pattern matching algorithms.

UNIT – II

Arrays: Introduction, Linear arrays, Representation of linear array in memory, address calculations, Traversal, Insertions, Deletion in an array, Multidimensional arrays, Parallel arrays, Sparse arrays.

Linked List: Introduction, Array vs. linked list, Representation of linked lists in memory, Traversal, Insertion, Deletion, Searching in a linked list, Header linked list, Circular linked list, Two-way linked list, Threaded lists, Garbage collection, Applications of linked lists.

UNIT – III

Stack: Introduction, Array and linked representation of stacks, Operations on stacks, Applications of stacks: Polish notation, Recursion.

Queues: Introduction, Array and linked representation of queues, Operations on queues, Deques, Priority Queues, Applications of queues.

UNIT – IV

Tree: Introduction, Definition, Representing Binary tree in memory, Traversing binary trees, Traversal algorithms using stacks.

Graph: Introduction, Graph theory terminology, Sequential and linked representation of graphs.

TEXT BOOKS

1. Seymour Lipschutz, "Data Structure", Tata-McGraw-Hill
2. Horowitz, Sahni & Anderson-Freed, "Fundamentals of Data Structures in C", Orient Longman.

REFERENCE BOOKS:

1. Trembley, J.P. And Sorenson P.G., "An Introduction to Data Structures With Applications", Mcgrraw-Hill International Student Edition, New York.
2. Mark Allen Weiss Data Structures and Algorithm Analysis In C, Addison- Wesley, (An Imprint Of Pearson Education), Mexico City.Prentice- Hall Of India Pvt. Ltd., New Delhi.
3. Yedidyan Langsam, Moshe J. Augenstein, and Aaron M. Tenenbaum, "Data Structures Using C", Prentice- Hall of India Pvt. Ltd., New Delhi.

Note: Latest and additional good books may be suggested and added from time to time.

INTRODUCTION TO DATABASE SYSTEM
PAPER CODE: BC2003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT – I

Basic Concepts – Data, Information, Records and files. Traditional file –based Systems-File Based Approach-Limitations of File Based Approach, Database Approach-Characteristics of Database Approach, advantages and disadvantages of database system, components of database system, Database Management System (DBMS), Components of DBMS Environment, DBMS Functions and Components, DBMS users, Advantages and Disadvantages of DBMS, DBMS languages.

Roles in the Database Environment - Data and Database Administrator, Database Designers, Applications Developers and Users .

UNIT – II

Database System Architecture – Three Levels of Architecture, External, Conceptual and Internal Levels, Schemas, Mappings and Instances .

Data Independence – Logical and Physical Data Independence .

Classification of Database Management System, Centralized and Client Server architecture to DBMS .

Data Models: Records- based Data Models, Object-based Data Models, Physical Data Models and Conceptual Modeling.

UNIT – III

Entity-Relationship Model – Entity Types, Entity Sets, Attributes Relationship Types, Relationship Instances and ER Diagrams, abstraction and integration.

Basic Concepts of Hierarchical and Network Data Model, Relational Data Model:-Brief History, Relational Model Terminology-Relational Data Structure, Database Relations, Properties of Relations, Keys, Domains, Integrity Constraints over Relations, .

UNIT – IV

Relational algebra, Relational calculus, Relational database design: Functional dependencies, Modification anomalies, Ist to 3^{rd} NFs, BCNF, 4^{th} and 5^{th} NFs, computing closures of set FDs, SQL: Data types, Basic Queries in SQL, Insert, Delete and Update Statements, Views, Query processing: General strategies of query processing, query optimization, query processor, concept of security, concurrency and recovery.

TEXT BOOKS:

1. Elmasri & Navathe, "Fundamentals of Database Systems", 5th edition, Pearson Education.

REFERENCE BOOKS:

1. Thomas Connolly Carolyn Begg, "Database Systems", 3/e, Pearson Education
2. C. J. Date, "An Introduction to Database Systems", 8^{th} edition, Addison Wesley N. Delhi.

Note: Latest and additional good books may be suggested and added from time to time.

COMMUNICATION SKILLS (ENGLISH)
PAPER CODE: BC2004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Introduction to Basics of Communication: Communication and its various definition, features/characteristics of the communication, process of communication, communication model and theories, barrier to effective communication.

UNIT-II

Improving LSRW: introduction, verbal and nonverbal communication, listening process, group discussion, forms of oral presentation, self-presentation, dyadic communication, 5C's of communication, Developing dialogues, soft skill.

UNIT-III

Basic vocabulary: how to improve vocabulary, prefix/suffix, synonyms/antonyms, one word substitution, spellings

Developing fluency: grammar (conjunction, auxiliaries, prepositions, articles, tenses……), language games.

UNIT-IV

Proper use of Language: The Communication Skills, The effective Speech.

Effective self-presentation & facing interview: The interview process & preparing for it, The presentation skills.

Suggested Readings

1. Vik, Gilsdorf, "Business Communication", Irwin
2. K K Sinha, "Business Communication", Himalaya Publishing House / Galgoria Publication
3. Bovee, "Business Communication", Pearson ' PHI
4. Mohan, Banerjee, Business Communication, Mac million
5. Raman, Singh – Business communication – Oxford Press

Note: Latest and additional good books may be suggested and added from time to time.

PRACTICAL- SOFTWARE LAB
PAPER CODE: BC2005

(Practical Based on Paper BC2002 & 2003 Using C LANGUAGE AND SQL)

FOURTH SEMESTER

WEB DESIGNING
PAPER CODE: BC2006

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT – I

Introduction to Internet and World Wide Web; Evolution and History of World Wide Web; Basic features; Web Browsers; Web Servers; Hypertext Transfer Protocol, Overview of TCP/IP and its services; URLs; Searching and Web-Casting Techniques; Search Engines and Search Tools;

UNIT – II

Web Publishing: Hosting your Site; Internet Service Provider; Web terminologies, Phases of Planning and designing your Web Site; Steps for developing your Site; Choosing the contents; Home Page; Domain Names, Front page views, Adding pictures, Links, Backgrounds, Relating Front Page to DHTML.
Creating a Website and the Markup Languages (HTML, DHTML);

UNIT – III

Web Development: Introduction to HTML; Hypertext and HTML; HTML Document Features; HTML command Tags; Creating Links; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text; Page layouts;

UNIT – IV

Images; Ordered and Unordered lists; Inserting Graphics; Table Creation and Layouts; Frame Creation and Layouts; Working with Forms and Menus; Working with Radio Buttons; Check Boxes; Text Boxes;
DHTML: Dynamic HTML, Features of DHTML,CSSP(cascading style sheet positioning) and JSSS(JavaScript assisted style sheet), Layers of netscape, The ID attributes, DHTML events.

TEXT BOOKS:

1. Raj Kamal, "Internet and Web Technologies", Tata McGraw-Hill.
2. Ramesh Bangia, "Multimedia and Web Technology", Firewall Media.

REFERENCE BOOKS:

1. Thomas A. Powell, "Web Design: The Complete Reference" , 4/e, Tata McGraw-Hill
2. Wendy Willard, "HTML Beginners Guide", Tata McGraw-Hill.
3. Deitel and Goldberg, "Internet and World Wide Web, How to Program", PHI.

Note: Latest and additional good books may be suggested and added from time to time.

DATA STRUCTURES – II
PAPER CODE: BC2007

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT – I

Tree: Header nodes, Threads, Binary search trees, Searching, Insertion and deletion in a Binary search tree, AVL search trees, Insertion and deletion in AVL search tree, m-way search tree, Searching, Insertion and deletion in an m-way search tree, B-trees, Searching, Insertion and deletion in a B-tree, B+tree, Huffman's algorithm, General trees.

UNIT – II

Graphs: Warshall's algorithm for shortest path, Dijkstra algorithm for shortest path, Operations on graphs, Traversal of graph, Topological sorting.

UNIT – III

Sorting: Internal & external sorting, Radix sort, Quick sort, Heap sort, Merge sort, Tournament sort, Searching: Liner search, binary search, merging, Comparison of various sorting and searching algorithms on the basis of their complexity.

UNIT – IV

Files: Physical storage devices and their characteristics, Attributes of a file viz fields, records, Fixed and variable length records, Primiry and secondary keys, Classification of files, File operations, Comparison of various types of files, File organization: Serial, Sequential, Indexed-sequential, Random-access/Direct, Inverted, Multilist file organization.
Hashing: Introduction, Hashing functions and Collision resolution methods .

TEXT BOOKS

1. Seymour Lipschutz, "Data Structure", Tata-McGraw-Hill
2. Horowitz, Sahni & Anderson-Freed, "Fundamentals of Data Structures in C", Orientlongman.

REFERENCE BOOKS

1. Trembley, J.P. And Sorenson P.G., "An Introduction to Data Structures With Applications", Mcgrraw-Hill International Student Edition, New York.
2. Mark Allen Weiss, "Data Structures and Algorithm Analysis in C", Addison- Wesley, (An Imprint Of Pearson Education), Mexico City.Prentice- Hall Of India Pvt. Ltd., New Delhi.

Note: Latest and additional good books may be suggested and added from time to time.

Object Oriented Programming Using C++
PAPER CODE: BC2008

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Object Oriented Programming Concepts : Procedural Language and Object Oriented approach, Characteristics of OOP, user defined types, polymorphism and encapsulation. Getting started with C++: syntax, data types, variables, string, function, namespace and exception, operators, flow control, recursion, array and pointer, structure .

UNIT-II

Abstracting Mechanism: classes, private and public, Constructor and Destructor , member function, static members, references;

Memory Management: new, delete, object copying, copy constructer, assignment operator, this input/output

UNIT-III

Inheritance and Polymorphism: Derived Class and Base Class, Different types of Inheritance, Overriding member function, Abstract Class, Public and Private Inheritance, Ambiguity in Multiple inheritance , Virtual function, Friend function, Static function.

UNIT-IV

Exception Handling: Exception and derived class, function exception declaration, unexpected exception, exception when handling exception, resource capture and release.

Template and Standard Template Library: Template classes, declaration, template functions, namespace, string, iterators, hashes, iostreams and other types.

Suggested Readings

1. Herbert Schildts : C++ - The Complete Reference, Tata McGraw Hill Publications.
2. Balaguru Swamy : C++, Tata McGraw Hill Publications.
3. Balaguruswamy : Object Oriented Programming and C++, TMH.
4. Shah & Thakker : Programming in C++, ISTE/EXCEL.
5. Johnston : C++ Programming Today, PHI.
6. Object Oriented Programming and C++, Rajaram, New Age International.
7. Samanta : Object Oriented Programming with C++ & JAVA, PHI.

Note : Latest and additional good books may be suggested and added from time to time.

Software Engineering
PAPER CODE: BC2009

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT – I

Introduction: Software Crisis, Software Processes & Characteristics, Software life cycle models, Waterfall, Prototype, Evolutionary and Spiral Models.

Software Requirements Analysis & Specifications: Requirement engineering, requirement

elicitation techniques like FAST, QFD, requirements analysis using DFD, Data dictionaries & ER Diagrams, Requirements documentation, Nature of SRS, Characteristics & organization of SRS .

UNIT – II

Software Project Management Concepts: The Management spectrum, The People The Problem, The Process, The Project.

Software Project Planning: Size Estimation like lines of Code & Function Count, Cost Estimation Models, COCOMO, Risk Management.

UNIT - III

Software Design: Cohesion & Coupling, Classification of Cohesiveness & Coupling, Function Oriented Design, Object Oriented Design, Software Metrics: Software measurements: What & Why, Token Count, Halstead Software Science Measures, Design Metrics, Data Structure Metrics

Software Implementation: Relationship between design and implementation, Implementation issues and programming support environment, Coding the procedural design, Good coding style.

UNIT - IV

Software Testing: Testing Process, Design of Test Cases, Types of Testing, Functional Testing, Structural Testing, Test Activities, Unit Testing, Integration Testing and System Testing, Debugging Activities.

Software Maintenance: Management of Maintenance, Maintenance Process, Reverse Engineering, Software Re-engineering, Configuration Management, Documentation.

Suggested Readings

1. Pressman : Software Engineering, TMH.
2. Gill, Nasib Singh : Software Engineering, Khanna Book Publishing Co. (P) Ltd. N. Delhi.
3. Jalote, Pankaj : An Integrated Approach to Software Engineering, Narosa Publications.
4. Chhillar Rajender Singh : Software Engineering : Testing, Faults, Metrics, Excel Books, New Delhi.
5. Ghezzi, Carlo : Fundaments of Software Engineering, PHI.
6. Fairely, R.E. : Software Engineering Concepts, McGraw-Hill.
7. Lewis, T.G.: Software Egineering, McGraw-Hill.
8. Shere : Software Engineering & Management, Prentice Hall.

Note : Latest and additional good books may be suggested and added from time to time.

PRACTICAL- SOFTWARE LAB
PAPER CODE: BC2010

PRACTICAL BASED ON PAPER BC2006 & BC2008 i.e HTML AND C++ LANGUAGE

Fifth Semester

MANAGEMENT INFORMATION SYSTEM
PAPER CODE: BC3001

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT – I

Introduction to system and Basic System Concepts, Types of Systems, The Systems Approach, Information System: Definition & Characteristics, Types of information, Role of Information in Decision-Making, Sub-Systems of an Information system: EDP and MIS management levels, EDP/MIS/DSS.

UNIT –II

An overview of Management Information System: Definition & Characteristics, Components of MIS, Frame Work for Understanding MIS: Information requirements & Levels of Management, Simon's Model of decision-Making, Structured Vs Un-structured decisions, Formal vs. Informal systems.

UNIT – III

Developing Information Systems: Analysis & Design of Information Systems: Implementation & Evaluation, Pitfalls in MIS Development.

UNIT – IV

Functional MIS: A Study of Personnel, Financial and production MIS, Introduction to e-business systems, ecommerce – technologies, applications, Decision support systems – support systems for planning, control and decision-making

TEXT BOOK:

1. J. Kanter, "Management/Information Systems", PHI.
2. Gordon B. Davis, M. H. Olson, "Management Information Systems – Conceptual foundations, structure and Development", McGraw Hill.

REFERENCE BOOK:

1. James A. O'Brien, "Management Information Systems", Tata McGraw-Hill.
2. James A. Senn, "Analysis & Design of Information Systems", Second edition, McGraw Hill.
3. Robert G. Murdick & Joel E. Ross & James R. Claggett, "Information Systems for Modern Management", PHI.
4. Lucas, "Analysis, Design & Implementation of Information System", McGraw Hill.
5. **Note:** Latest and additional good books may be suggested and added from time to time.

COMPUTER GRAPHICS
PAPER CODE: BC3002

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Graphics Primitives: Introduction to computer graphics, Basics of Graphics systems, Application areas of Computer Graphics, overview of graphics systems, video-display devices, and raster-scan systems, random scan systems, graphics monitors and workstations and input devices.

Output Primitives: Points and lines, line drawing algorithms, mid-point circle and ellipse algorithms. Filled area primitives: Scan line polygon fill algorithm, boundary fill and flood-fill algorithms .

UNIT-II

2-D Geometrical Transforms: Translation, scaling, rotation, reflection and shear transformations, matrix representations and homogeneous coordinates, composite transforms,
transformations between coordinate systems.

2-D Viewing: The viewing pipeline, viewing coordinate reference frame, window to view-port coordinate transformation, viewing functions, Cohen-Sutherland and Cyrus-beck line clipping algorithms, Sutherland – Hodgeman polygon clipping algorithm.

UNIT-III

3-D Object Representation: Polygon surfaces, quadric surfaces, spline representation, Hermite curve, Bezier curve and B-Spline curves, Bezier and B-Spline surfaces. Basic illumination models, polygon-rendering methods.

UNIT-IV

3-D Geometric Transformations: Translation, rotation, scaling, reflection and shear transformations, composite transformations.

3-D Viewing: Viewing pipeline, viewing coordinates, view volume and general projection transforms and clipping.

Suggested Readings

1. Donald Hearn and M. Pauline Baker : Computer Graphics, PHI Publications.
2. Plastock : Theory & Problem of Computer Gaphics, Schaum Series.
3. Foley & Van Dam : Fundamentals of Interactive Computer Graphics, Addison-Wesley.
4. Newman : Principles of Interactive Computer Graphics, McGraw Hill.
5. Tosijasu, L.K. : Computer Graphics, Springer-Verleg.

Note : Latest and additional good books may be suggested and added from time to time.

DATA COMMUNICATION AND NETWORKING
PAPER CODE: BC3003

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT – I

Introduction to Computer Communications and Networking Technologies; Uses of Computer Networks; Network Devices, Nodes, and Hosts; Types of Computer Networks and their Topologies; Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; Network Applications and Application Protocols; Computer Communications and Networking Models: Decentralized and Centralized Systems, Distributed Systems, Client/Server Model, Peer-to-Peer Model, Web-Based Model, Network Architecture and the OSI Reference Model, TCP/IP reference model, Example Networks: The Internet, X.25, Frame Relay, ATM.

UNIT – II

Analog and Digital Communications Concepts: Concept of data, signal, channel, bid-rate , maximum data-rate of channel, Representing Data as Analog Signals, Representing Data as Digital Signals, Data Rate and Bandwidth, Capacity, Baud Rate; Asynchrous and synchrous transmission, data encoding techniques, Modulation techniques, Digital Carrier Systems; Guided and Wireless Transmission Media; Communication Satellites; Switching and Multiplexing; Dialup Networking; Analog Modem Concepts; DSL Service.

UNIT - III

Data Link Layer: Framing, Flow Control, Error Control; Error Detection and Correction; Sliding Window Protocols; Media Access Control: Random Access Protocols, Token Passing Protocols; Token Ring; Introduction to LAN technologies: Ethernet, switched Ethernet, VLAN, fast Ethernet, gigabit Ethernet, token ring, FDDI, Wireless LANs; Bluetooth;

Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, Network Interface Cards and PC Cards, Bridges, Switches, Routers, Gateways.

UNIT – IV

Network Layer and Routing Concepts: Virtual Circuits and Datagrams; Routing Algorithms: Flooding, Shortest Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing; Congestion Control Algorithms; Internetworking;

Network Security Issues: Security threats; Encryption Methods; Authentication; Symmetric –Key Algorithms; Public-Key Algorithms.

TEXT BOOKS:

1. Michael A. Gallo, William M. Hancock, "Computer Communications and Networking Technologies", CENGAGE Learning.
2. Andrew S. Tanenbaum, "Computer Networks", Pearson Education.

REFERENCE BOOKS:

1. James F. Kurose, Keith W. Ross, "Computer Networking", Pearson Education.
2. Behrouz A Forouzan, "Data Communications and Networking", McGraw Hill.

Note: Latest and additional good books may be suggested and added from time to time.

Visual Basic
PAPER CODE: BC3004

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT – I

Introduction to VB: Visual & non-visual programming, Procedural, Object-oriented and eventdriven programming languages, The VB environment: Menu bar, Toolbar, Project explorer, Toolbox, Properties window, Form designer, Form layout, Immediate window. Visual Development and Event Driven programming.

UNIT – II

Basics of Programming: Variables: Declaring variables, Types of variables, Converting variables types, User-defined data types, Forcing variable declaration, Scope & lifetime of variables. Constants: Named & intrinsic. Operators: Arithmetic, Relational & Logical operators. I/O in VB: Various controls for I/O in VB, Message box, Input Box, Print statement.

UNIT – III

Programming with VB: Decisions and conditions: If statement, If-then-else, Select-case. Looping statements: Do-loops, For-next, While-wend, Exit statement. Nested control structures. Arrays: Declaring and using arrays, one-dimensional and multi-dimensional arrays, Static & dynamic arrays, Arrays of array. Collections: Adding, Removing, Counting, Returning items in a collection, Processing a collection.

UNIT – IV

Programming with VB: Procedures: General & event procedures, Subroutines, Functions, Calling procedures, Arguments- passing mechanisms, Optional arguments, Named arguments, Functions returning custom data types, Functions returning arrays.

Working with forms and menus : Adding multiple forms in VB, Hiding & showing forms, Load & unload statements, creating menu, submenu, popup menus, Activate & deactivate events, Form-load event, menu designing in VB Simple programs in VB.

TEXT BOOKS:

1. Steven Holzner, "Visual Basic 6 Programming: Black Book", Dreamtech Press.
2. Evangelos Petroutsos. "Mastering Visual Baisc 6", BPB Publications.

3. Julia Case Bradley & Anita C. Millspaugh, "Programming in Visual Basic 6.0", Tata McGraw-Hill Edition

REFERENCE BOOKS:

1. Michael Halvorson, "Step by Step Microsoft Visual Basic 6.0 Professional", PHI
2. "Visual basic 6 Complete", BPB Publications.
3. Scott Warner, "Teach Yourself Visual basic 6", Tata McGraw-Hill Edition
4. Brian Siler and Jeff Spotts, "Using Visual Basic 6", Special Edition, PHI.

Note: Latest and additional good books may be suggested and added from time to time.

PRACTICAL- SOFTWARE LAB
PAPER CODE: BC3005

Practical Based on Paper BC3002 & BC3004 i.e. Visual Basic)

Sixth Semester

E-COMMERCE
PAPER CODE: BC3006

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Electronic Commerce: Overview of Electronic Commerce, Scope of Electronic Commerce, Traditional Commerce vs. Electronic Commerce, Impact of E-Commerce, Electronic Markets, Internet: Commerce, e-commerce in perspective, Application of E-Commerce in Direct Marketing and Selling, Obstacles in adopting E-Commerce Applications; Future of E-Commerce.

UNIT-II

Value Chains in Electronic Commerce, Supply chain, Porter's value chain Model, Inter Organizational value chains, Strategic Business unit chains, Industry value chains.

Security Threats to E-commerce: Security Overview, Computer Security Classification, Copyright and Intellectual Property, security Policy and Integrated Security, Intellectual Property Threats, electronic Commerce Threats, Clients Threats, Communication Channel Threats, server Threats.

UNIT-III

Implementing security for E-Commerce: Protecting E-Commerce Assets, Protecting Intellectual property, Protecting Client Computers, Protecting E-commerce Channels, Insuring Transaction Integrity, Protecting the Commerce Server.

Electronic Payment System: Electronic Cash, Electronic Wallets, Smart Card, Credit and Change Card.

UNIT-IV

Business to Business E-Commerce: Inter-organizational Transitions, Credit Transaction Trade Cycle, a variety of transactions, Electronic Data Interchange (EDI): Introduction to EDI, Benefits of EDI, EDI Technology, EDI standards, EDI Communication, EDI Implementation, EDI agreement, EDI security.

Suggested Readings:

1. R. Kalakota and A.B. Whinston, Readings in Electronic Commerce, Addison Wesley.
2. David Kosiur, Understanding E-Commerce, Microsoft Press, 1997_3) Soka, From EDI to Electronic Commerce, McGraw Hill, 1995.
3. David Whitely, E-commerce Strategy, Technology and application, Tata McGraw Hill.
4. Gary P. Schneider and Jame Perry, Electronic Commerce Thomson Publication.
5. Doing Business on the Internet E-Commerce S_Jaiswal; Galgotia Publications.
6. E-Commerce: An Indian Perspective; P_T_Joseph; S.J.; PHI.
7. E-Commerce; S. Jaiswal – Glgotia.
8. E-Commerce; Efrain Turbon; Jae Lee; David King; H Michael Chang.

OBJECT TECHNOLOGIES & PROGRAMMING USING JAVA
PAPER CODE: BC3007

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT-I

Object Oriented Methodology-1: Paradigms of Programming Languages, Evolution of OO Methodology, Basic Concepts of OO Approach, Comparison of Object Oriented and Procedure Oriented Approaches, Benefits of OOPs, Introduction to Common OO Language,
Applications of OOPs .

Object Oriented Methodology-2: Classes and Objects, Abstraction and Encapsulation, Inheritance, Method Overriding and Polymorphism.

UNIT-II

Java Language Basics*:* Introduction To Java, Basic Features, Java Virtual Machine Concepts, Primitive Data Type And Variables, Java Operators, Expressions, Statements and Arrays.

Object Oriented Concepts: Class and Objects-- Class Fundamentals, Creating objects , Assigning object reference variables; Introducing Methods, Static methods, Constructors , Overloading constructors; This Keyword; Using Objects as Parameters, Argument passing, Returning objects , Method overloading, Garbage Collection, The Finalize ( ) Method.

Inheritance and Polymorphism: Inheritance Basics, Access Control, Multilevel Inheritance,
Method Overriding, Abstract Classes, Polymorphism, Final Keyword.

UNIT-III

Packages : Defining Package, CLASSPATH, Package naming, Accessibility of Packages , using Package Members.

Interfaces: Implementing Interfaces, Interface and Abstract Classes, Extends and Implements together .

Exceptions Handling : Exception , Handling of Exception, Using try-catch , Catching Multiple Exceptions , Using finally clause , Types of Exceptions, Throwing Exceptions, Writing Exception Subclasses.

UNIT-IV

Multithreading : Introduction , The Main Thread, Java Thread Model, Thread Priorities, Synchronization in Java, Inter thread Communication.

I/O in Java : I/O Basics, Streams and Stream Classes ,The Predefined Streams, Reading from, and Writing to, Console, Reading and Writing Files , The Transient and Volatile Modifiers , Using Instance of Native Methods.

Strings and Characters : Fundamentals of Characters and Strings, The String Class , String Operations , Data Conversion using Value Of ( ) Methods , String Buffer Class and Methods.

Suggested Readings

1. Programming in Java, E Balagurusamy .
2. The Complete Reference JAVA, TMH Publication.
3. Begining JAVA, Ivor Horton, WROX Public.
4. JAVA 2 UNLEASHED, Tech Media Publications.
5. Patrick Naughton and Herbertz Schildt, "Java-2 The Complete Reference", 1999,TMH.

Note: Latest and additional good books may be suggested and added from time to time.

ARTIFICIAL INTELLIGENCE
PAPER CODE: BC3008

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT – I

Overview of A.I: Introduction to AI, Importance of AI, AI and its related field, AI techniques, Criteria for success.

Problems, problem space and search: Defining the problem as a state space search, Production system and its characteristics, Issues in the design of the search problem

Heuristic search techniques : Generate and test, hill climbing, best first search technique, problem reduction, constraint satisfaction

UNIT - II

Knowledge Representation: Definition and importance of knowledge, Knowledge representation, Various approaches used in knowledge representation, Issues in knowledge representation.

Using Predicate Logic : Represent ting Simple Facts in logic, Representing instances and is_a relationship, Computable function and predicate.

UNIT - III

Natural language processing : Introduction syntactic processing, Semantic processing, Discourse and pragmatic processing.

Learning: Introduction learning, Rote learning, Learning by taking advice, Learning in problem solving, Learning from example-induction, Explanation based learning.

UNIT - IV

Expert System: Introduction, Representing using domain specific knowledge, Expert system shells.

Suggested Readings

1. David W. Rolston : Principles of Artificial Intelligence and Expert System Development, McGraw Hill Book Company.
2. Elaine Rich, Kevin Knight : Artificial Intelligence, Tata McGraw Hill.
3. D.W. Patterson, "Introduction to AI and Expert Systems", PHI, 1999 .
4. Nils J Nilsson ,"Artificial Intelligence -A new Synthesis" 2nd Edition (2000), Harcourt Asia Ltd.

Note: Latest and additional good books may be suggested and added from time to time.

INTRODUCTION TO .NET
PAPER CODE: BC3009

Marks: 100 **Time: 3Hrs**

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 10 short-answer type questions each of 2 marks covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four questions from the remaining eight questions each carrying 20 marks.

UNIT – I

The Framework of .Net: Building blocks of .Net Platform (the CLR, CTS and CLS), Features of .Net, Deploying the .Net Runtime, Architecture of .Net platform, Introduction to namespaces & type distinction. Types & Object in .Net, the evolution of Web development .

UNIT – II

Class Libraries in .Net, Introduction to Assemblies & Manifest in .Net, Metadata & attributes . Introduction to C#: Characteristics of C#, Data types: Value types, reference types, default value, constants, variables, scope of variables, boxing and unboxing.

UNIT – III

Operators and expressions: Arithmetic, relational, logical, bitwise, special operators, evolution of expressions, operator precedence & associativity, Control constructs in C#: Decision making, loops, Classes & methods: Class, methods, constructors, destructors, overloading of operators & functions.

UNIT – IV

Inheritance & polymorphism: visibility control, overriding, abstract class & methods, sealed classes & methods, interfaces.

Advanced features of C#: Exception handling & error handling, automatic memory management, Input and output (Directories, Files, and streams).

TEXT BOOKS:

1. Introduction to C# using .NET By Robert J. Oberg, PHI, 2002.
2. Programming in C# By E. Balaguruswamy, Tata McGraw Hill.

REFERENCES BOOKS:

1. The Complete Guide to C# Programming by V. P. Jain.
2. C# : A Beginner's Guide, Herbert Schildt, Tata McGraw Hill.
3. C# and .NET Platform by Andrew Troelsen, Apress, 1st edition, 2001.

Note: Latest and additional good books may be suggested and added from time to time.

PRACTICAL- SOFTWARE LAB
PAPER CODE: BC3010
PRACTICAL BASED ON PAPER BC3007 and BC3009 Using Java & .NET