

DIRECTORATE OF DISTANCE EDUCATION
MAHARSHI DAYANAND UNIVERSITY, ROHTAK



New Scheme of Examination
Bachelor of Arts (BA)
Three Year Programme (Annual)

BA-I

Paper	Nomenclature Compulsory Subjects	Marks
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
BA1007	Mathematics 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

Paper	Nomenclature Compulsory Subjects	Marks
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

Paper	Nomenclature Compulsory Subjects	Marks
BA3001	English	100
BA3002	Hindi	100

Elective Subjects: Choose any two of the subjects one from each group:

Group-I

BA3003	History Option-2-History of Modern 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
PAPER CODE: BA1001

B.A I session 2015-2016
(English Compulsory)

Syllabus and Scheme of Examination

Maximum Marks: 100

Time: 3 Hours

Prescribed Book:

Rana, Randeep, Jaibir S. Hooda and Loveleen Mohan eds. Language and Literature. Orient Blackswan.

- Question 1.** Explanation with reference to the context: Students will be required to attempt any two out of the given three passages. **2x6=12**
- Question 2.** Short answer type questions: Students will be required to answer any five out of the given eight in about 50 words each. **5x3=15**
- Question 3.** Essay type questions: Students will be required to answer two questions in about 150-200 words each. There will be internal choice in both the questions. **2x9=18**
- Question 4.** Comprehension: Students will be required to answer the questions that follow the passage taken from the prescribed textbook. **5**
- Question 5.** (A) Grammar: noun, pronoun, adjective, adverb, verb, preposition, modal and conjunction. This will be "Do as Directed" type question. Students will be required to attempt any twenty out of the given thirty items.
- Question 5** (B) Grammar: tense, voice, narration and phrasal verbs. This will be "Do as Directed" type question. Students will be required to attempt any twenty out of the given thirty items. **2x20=40**
- Question 6** Essay: students will be required to write an essay in about 200 words on any one out of the four. The topics for essay writing will be similar to but not the same as given in the prescribed textbook. **10**

HINDI (COMPULSORY)
PAPER CODE BA1002

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Marks: 100

Time: 3Hrs

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 होगा। **अंक 12**
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। **अंक 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। **अंक 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। **अंक 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। यह प्रश्न 8 अंकों का होगा। **अंक 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 निर्धारित हैं। **अंक 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 अर्थात् चार प्रश्न पूछे जाएंगे, जिनमें से परीक्षार्थियों को किन्हीं तीन प्रश्नों के उत्तर देने होंगे। प्रश्न परिचयात्मक प्रकृति के होंगे। प्रत्येक प्रश्न 10 अंकों का होगा और पूरा प्रश्न 30 अंकों का होगा। **अंक 30**
8. अन्तिम प्रश्न काव्य शिखर की अनुशीलनी के व्याकरण पर आधारित 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। **अंक 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 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 20 marks.

Section I

1. Survey of the sources.
2. Pre historic hunter-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 decline and 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: Illutmish, 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 Syndicate, 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 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more 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;

Consumer's equilibrium (Hicks and Slutsky); 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 a firm: imperfect competitions, monopolistic competition, Factor pricing marginal productivity theory of distribution.

Unit III

Problems of planning in India; Characteristics of Indian economy; problems of poverty; inequality and unemployment; objectives of planning in Indian achievements and failures; new economic 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 (1990), Microeconomics Theory ; A Mathematical Approach, McGraw Hill, New Delhi.

Heath field and Wibe (1907), An introduction to cost and production functions, Macmillan London.

Kouisoynnis, 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 ; Environment 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 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more 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: 3 Hrs

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more 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 Identities, 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 7 short-answer type questions each of 1 mark covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 7 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: "Eigenvalues eigenvectors and the characteristic equation of a matrix. (Cayley Hamilton's theorem) and its use in finding inverse of a matrix. Applications of matrices to a system of linear (both homogeneous and non-homogeneous) 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 (Cardan 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. Lagrange'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 alternating 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 Matrices, 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, Engineering 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, Trigonometry, Schaum Outline Series, Tata McGraw Hill.
18. Rich, Elementary 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 7 short-answer type questions each of 1 mark covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 7 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 to Real Analysis, i S. Chand & Co. New Delhi, 2000.
3. G.T. 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 6 short-answer type questions each of 1 mark covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 6 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 conics. System of conics. Confocal Conics. Polar equation of conic.

Section IV

General coincides, Paraboloids. Plane...Sections of Coincides. Generating lines. Confocal coincides. Reduction -of Second Degree equation. Sphere, Cone, Cylinder.

संस्कृत ऐच्छिक

PAPER CODE BA1008

Time: 3Hrs

Marks: 100

Unit-I संस्कृत वाग्व्यवहारः

अंक 10

संस्कृत व्यवहार साहस्री (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 (शिष्टाचारः,
मेलनम्, सरलवाक्यानि, सामान्यवाक्यानि, मित्रमिलनम्, यात्रा, प्रवासतः प्रतिनिवर्तनम्, छात्राः)

Unit-II संस्कृत ग्रन्थानुशीलनम्

अंक 30

- (क) हितोपदेशः (मित्रलाभः)
(ख) दूतवाक्यम् (भासविरचितम्)
(ग) शुकनासोपदेशः (कादम्बरीतः)
(पाठ्यांशों की व्याख्या व सार आदि)

Unit-III संस्कृत व्याकरणम्

अंक 30

- (क) शब्दरूप— राम, कवि, भानु, पितृ, लता, मति, नदी, धेनु, वधू, मातृ, फल, वारि, मधु,
आत्मन्, दण्डिन्, वाच, सरित्, सर्व, तद्, एतद्, यद्, किम्, इदम् (तीन लिंगों में), अस्मद्, युष्मद्,
एक, द्वि, त्रि, चतुर, पञ्चन् (तीनों लिंगों में)
(ख) धातुरूप परस्मैपदम् — भू, पठ, हस्, नम्, गम्, अस्, हन, क्रुध, नश्, नृत्, अद्, इष्, पृच्छ, चिन्त्
आत्मनेपदम्— सेव, लभ, रुच्, मुद्, याच्
उभयपदम् — कृ, नी, ह, भज्, पच्
(ग) सन्धि — अच् सन्धि, हल् सन्धि, विसर्ग सन्धि

Unit-IV छन्द

अंक 16

अनुष्टुप्, आर्या, इन्द्रवज्रा, उपेन्द्रवज्रा, उपजाति, मालिनी, स्रग्धरा, वंशस्थ, शिखरिणी,
मन्दाक्रान्ता, वसन्ततिलका, शार्दूलविक्रीडितम्

Unit-ट अनुवादः कण्ठस्थश्लोकाश्च

अंक 14

- (क) हिन्दी से संस्कृत में सरल अनुवाद
(ख) कण्ठस्थ चार श्लोकों का शुद्ध लेखन (प्रश्न पत्र में छपे श्लोकों से भिन्न)

दिशा निर्देशः—

Unit I: आठ में से किन्हीं पाँच प्रश्नों के संस्कृत में उत्तर

5x2=10

Unit II: (क) चार में से दो संदर्भों की व्याख्या

2x5=10

(ख) चार में से दो संदर्भों की व्याख्या

2x5=10

(ग) चार में से दो गद्यांशों की व्याख्या

2x5=10

Unit III: (क) चार शब्दों में से किन्हीं दो के सम्पूर्ण रूप

2x5=10

(ख) चार धातुओं में से किन्हीं दो के पूछे गए दो लकारों में सम्पूर्ण रूप

(लट्, लृट्, लोट्, लङ्, विधिलिङ्, लकार)

2x5=10

(ग) आठ में से किन्हीं पाँच प्रयोगों में सन्धि अथवा सन्धिविच्छेद

5x2=10

Unit IV: चार में से किन्हीं दो छंदों में लक्षण व उदाहरण

2x8=16

Unit V: (क) आठ में से पाँच वाक्यों का संस्कृत में अनुवाद

5x2=10

(ख) कण्ठस्थ चार श्लोकों का लेखन(प्रश्न पत्र से भिन्न)

4x1=04

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 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more 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).
5. Cunningham, W.P. Cooper, T.H. Qorhani, E. & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Pub. House, Mumbai 1196p.
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).

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 Prescribed

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 Gopalachari, 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. 10X2=20 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). 4X5=20 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. 2X10=20 Marks
- Q4.** One essay-type question (with internal choice) will be set on the book of Fiction. 20 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. 20 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. 20 Marks
- Q7** Comprehension passage.(with five questions at the end) 20 Marks
- Q8** Translation (of a passage from English to Hindi) 20 Marks

fglUnh vfuok; l
PAPER CODE: BA2002

Marks: 100

Time: 3Hrs

पाठ्य पुस्तक / पाठ्य विषय

1. अभिनव काव्य गरिमा स. डॉ. राम नरेश मिश्र, प्रकाशक खाटू श्याम प्रकाशन, रोहतक, दिल्ली।
2. "अभिनव गद्य गरिमा" कुरुक्षेत्र 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। **अंक 18**
2. काव्य पुस्तक से संबंधित किन्हीं तीन कवियों का साहित्यिक परिचय पूछा जाएगा जिनमें से परीक्षार्थियों को किसी एक का उत्तर देना होगा। यह प्रश्न 10 अंकों का होगा। **अंक 10**
3. अंधेर नगरी से चार लघूत्तरी प्रश्न पूछे जाएंगे जिनमें से परीक्षार्थियों को दो प्रश्नों के उत्तर देने होंगे प्रत्येक प्रश्न 5 अंकों का होगा। **अंक 10**
4. "जहाज का पंछी" उपन्यास से चार आलोचनात्मक प्रश्न पूछे जाएंगे। जिनमें से परीक्षार्थियों को 2 प्रश्नों के उत्तर देने होंगे। प्रत्येक प्रश्न 9 अंकों का होगा। **अंक 18**
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। **अंक 10**
- 5A. "अभिनव गद्य गरिमा" से चार लघूत्तरी प्रश्न पूछे जाएंगे। जिनमें से परीक्षार्थियों को किन्हीं दो प्रश्न के उत्तर देने होंगे। प्रत्येक प्रश्न 5 अंकों का होगा। **अंक 10**
6. आधुनिक हिन्दी साहित्य के इतिहास से दस अति लघूत्तरी प्रश्न 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। **अंक 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 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more 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 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more 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 Hicks, 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: demand-pull and cost-push; effect and control of inflation; Functions of commercial banks and Central Bank; 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 of taxation; Characteristics of a good tax system, Recent tax reforms in India-an overview; Sources and effects of public debt; Methods of debt redemption; Recommendations of thirteenth Finance Commission.

Reading list

Ackley, G (1976), Macroeconomics, Theory and Policy. Macmillan Publishing Company New York.
Day, A.C.I., (1960), 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 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more 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-Administrative 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 citizen, Lokpal and Lok- Ayukt.

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

Marks: 100

Time: 3 Hrs

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more 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: Corner 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 7 short-answer type questions each of 1 mark covering the entire syllabus. In addition to Q. No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 7 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 Leibnitz's Theorem. Absolute 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 remainders. Limit and continuity of functions of two variables. Partial differentiation, Change of variables. Euler's theorem on homogeneous functions. Taylor's theorem for functions of two variables. Jacobians. Maxima, minima and saddle points of functions of two variables. Lagrange's multiplier method.

Section III

Envelopes, Evolutes, Indeterminate forms.

Section IV

Beta and Gamma functions. Double and triple integrals. Dirichlet's 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 Mathematical Analysis. Narosa Publishing House, New Delhi, 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 Macmillan Company, New York.
7. Shanti Narayan. A Course of Mathematical Analysis. S. Chand and Company, New Delhi.
8. Advanced Engineering Mathematics, ITP : Company, USA
9. Alan Jafferey, Advanced Engineering Mathematics, Harcourt/ ; Academic Press, USA.
10. K.A. Stroud, Advanced Engineering Mathematics, Industrial K.A. Stroud, Engineering Mathematics (Indian Edition), Replika Press Pvt. Ltd.
11. Erwin Kreyszig, Advanced Engineering Mathematics John Wiley and Sons.
12. Kialil 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 7 short-answer type questions each of 1 mark covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 7 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 Lagrange's Solution. Some special types of equations which can be solved easily 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 6 short-answer type questions each of 1 mark covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 6 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 curves Motion in a resisting medium. Motion of particles of varying mass.

Section IV

Central Orbits, Kepler's laws of motion. Motion of a particle in 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, ITP 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

Time: 3Hrs

Marks: 100

Unit-I संस्कृत वाग्व्यवहार: —

अंक 10

संस्कृत व्यवहार साहस्री (प्रकाशक संस्कृत भारती, माता मंदिर गली, झण्डेवालन, नई दिल्ली)
पुस्तक में से 9 से 16 विषयों तक संस्कृत में सरल प्रश्नोत्तर रूप में लिखित परीक्षा
(9 परीक्षा, 10 चलचित्रम्, 11 शिक्षकः, 12 स्त्रियः, 13 पाकः, 14 वेशभूषणानि, 15 कार्यालयः, 16 स्वास्थ्यम्)

Unit-II संस्कृत ग्रन्थानुशीलनम्

अंक 30

क) रामायणम् (बालकाण्डम् प्रथम सर्ग)
ख) श्रीमद्भागवद्गीता (द्वितीय अध्याय)
ग) रघुवंशम् (द्वितीय सर्ग)
(श्लोकों की व्याख्या व आलोचनात्मक प्रश्न, सार आदि)

Unit-III संस्कृत व्याकरणम्

अंक 25

क) समास—अव्ययीभाव, कर्मधारय, द्वन्द्व, बहुव्रीहि
ख) वाच्य—कर्तृवाच्य, कर्मवाच्य, भाववाच्य
ग) कृत्प्रत्यय—क्त्वा, तुमुन्, ण्यत्, क्त, क्तवतु, शतृ, शानच्, तव्यत्, अनीयर्
घ) तद्धित प्रत्यय—मत्तुप्, इनि, ठक्, त्व, तल्, छ
ङ) गिजन्त रूप एवं सन्नन्त रूप—भू, पठ्, गम्, पा, लिख्, श्रु, धृ, दा, स्था, हन्
धातुओं के लट् लकार, प्रथम पुरुष एकवचन में

Unit-IV लघु सिद्धांत कौमुदी

अंक 15

प्रत्याहार सूत्र तथा संज्ञा प्रकरणः (सोदाहरण सूत्र व्याख्या)

Unit-V अनुवादः पत्रलेखनम् च

अंक 20

क) हिन्दी से संस्कृत में सरल अनुवाद
ख) सरल विषयों पर संस्कृत में पत्र लेखन

दिशा निर्देशः—

Unit I: आठ में से किन्हीं पाँच प्रश्नों के संस्कृत में उत्तर

5x2=10

Unit II: (क) चार में से दो श्लोकों की व्याख्या

2x5=10

(ख) चार में से दो श्लोकों की व्याख्या

2x5=10

(ग) i. दो में से एक श्लोक की व्याख्या

1x5=05

ii. दो में से एक प्रश्न अथवा सार

1x5=05

Unit III: (क) आठ में से पाँच के समास अथवा विग्रह

5x1=05

(ख) चार में से दो वाक्यों में वाच्य परिवर्तन

2x2 $\frac{1}{2}$ =05

(ग) आठ में से पाँच में प्रकृति प्रत्यय प्रदर्शन

5x1=05

(घ) आठ में से पाँच में प्रकृति प्रत्यय प्रदर्शन

5x1=05

(ङ) आठ में से पाँच में प्रकृति प्रत्यय प्रदर्शन

5x1=05

Unit IV: पाँच में से किन्हीं तीन सूत्रों की व्याख्या

5x3=15

Unit V: (क) आठ में से पाँच वाक्यों का संस्कृत में अनुवाद

5x2=10

(ख) दो में से किसी एक विषय पर संस्कृत में पत्र लेखन

1x10=10

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. 20 Marks
- Q2. Two short questions (with internal choice) each on Poetry and the Play requiring critical understanding of the poems and the play. 20 Marks
- Q3. One essay-type question (with internal choice) on the book of poems, requiring first hand appreciation of the poems. 20 Marks
- Q4. One essay-type question (with internal choice) on the play requiring first-hand-appreciation of the text, including appreciation of theme/characters/ plot. 20 Marks

Section B

PRESCRIBED BOOKS

1. A Text book of English Grammar 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, Sonapat.

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

- a) Essay
- b) Precis
- c) Vocabulary-Synonyms, Antonyms, One Word Substitution
- d) Correction of incorrect sentences/Do as directed

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, on any one topic out of the four given in the question paper. The topics may be of descriptive or general nature. 20 Marks
- Q6. Precis of a given passage (with internal choice) 20 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). 20 Marks
- Q8. One essay type question with internal choice on The Spectrum of life : A Selection of Modern Essays. 20 Marks

हिन्दी (अनिवार्य)

PAPER CODE: BA3002

Marks: 100

Time: 3Hrs

पाठ्य-पुस्तक विषय

- हरियाणवी लोकधारा : सम्पादक डॉ० मीरा गौतम प्रोफेसर हिन्दी विभाग, कुरुक्षेत्र विश्वविद्यालय, कुरुक्षेत्र।
1 गरीबदास 2. नितानंद 3. बाजे भगत 4. लखमी चन्द 5. मांगे राम 6. साधू राम 7. बस्तीराम 8. फौजी मेहर सिंह 9. तारा दत्त विलक्षण 10. जयनारायण कौशिक 11. जगदीश चन्द्र वत्स 12. भारत भूषण सांघीवाला।
नोट : कवि परिचय, व्याख्या एवं प्रश्न लिखे गए कवियों में से पूछे जाएंगे। गद्य भाग में से आसा की किरण (हरियाणवी कहानी) सांभर 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।
- प्रयोजनमूलक हिंदी और काव्यांग – डॉ० नरेश मिश्र अभिनव प्रकाशन, नई सड़क दिल्ली।

निर्देश :-

- हरियाणवी जनपदीय भाषा और साहित्य पर आधारित कवियों में से व्याख्या के लिए चार अवतरण पूछे जाएंगे। परीक्षार्थियों को इनमें से दो की व्याख्या करनी होगी। प्रत्येक व्याख्या 6 अंकों की होगी। अंक 12
- 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। अंक 8
- निर्धारित कवियों की अनुशीलनी में दिए गए प्रश्नों में से चार प्रश्न पूछे जायेंगे। परीक्षार्थियों को इनमें से किन्हीं दो का उत्तर देना होगा। प्रत्येक प्रश्न 6 अंकों का होगा। अंक 12
- गद्य भाग में से पूछे गए दो आलोचनात्मक प्रश्नों में से कोई एक प्रश्न करना होगा। यह प्रश्न 10 अंकों का होगा। अंक 10
- 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। अंक 20
- 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। अंक 20
- हिन्दी 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। अंक 10
- काव्यांग से दो रसों के और दो अलंकारों के सोदाहरण लक्षण पूछे जाएंगे। इनमें से एक रस और एक अलंकार का लक्षण सोदाहरण लिखना होगा। जिसके लिए चार अंक निर्धारित हैं तथा पूरा प्रश्न 8 अंकों का होगा। अंक 8

HISTORY
HISTORY OF MODERN WORLD
(16th Century to Second World War)
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 12 short answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Question no. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 20 marks.

Section I

1. Decline of Feudalism and the rise of the modern Era-Renaissance and Reformation.
2. Mercantilism, Rise of capitalism and its growth.
3. Rise of absolutist state; France, Spain and Britain.
4. Scientific Revolutions: Agricultural Revolution; Industrial Revolution.
5. Glorious Revolution (1688)
6. American Revolution (1776)
7. European exploitation of Asia and Africa.

Section II

1. Liberalism in England, American Civil War, Socialist and Marxist Thought.
2. Nationalism in Europe
 - i. Ideology of nationalism
 - ii. Germany and Italy
3. Opium War in China, Battle of concessions in China, Open Door Policy, Chinese Revolution of 1911 and Rise of Communism.
4. Japan's Modernization and Rise as a World Power.
5. First World War and Peace Settlements.
6. Russian Revolution (1817): Causes and Impact.
7. Emergence of USA as a World Power.
8. Economic depression, Emergence of Nazism and Fascism.
9. Second World War: Its causes and results.

Section III

Maps

1. On an outline map of Europe show the countries which with Agriculture Revolution during the 16th- 19th centuries.
2. Europe on the eve of French Revolution.
3. Unification of Italy.
4. Unification of Germany.

Section IV

Objective type Short Answer Questions:

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 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more 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 labour (Leneis Model), - Balanced and unbalanced growth; critical minimum effort thesis (Harvey Leibenstein).

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 I (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 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more 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 : his role and position in the context of planning and Development at district level,

Divisional Commissioner : his role and position, State Headquarter's control over district Administration.

Rural Local Government : Zila Parishad, Panchayat Samiti and 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: 3 Hrs

Note: Examiner will be required to set NINE questions in all. Question No. 1 will be compulsory which consists of 12 short-answer type questions each of 2 marks covering the entire syllabus out of which candidate will be required to attempt ten questions. In addition to Q.No. 1, candidate will be required to attempt four more 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 Politics 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, 7thedn. 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 Chambers, 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, 6thedn. 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 Lijhart, 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., 2ndEdn. 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, 4thEdn. 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.

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 7 short-answer type questions each of 1 mark covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 7 marks.

Section - I

Riemannintegral 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. Convergence, divergence and oscillation, Abel's Dirichlet'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 Cauchy sequences completeness Cantor'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. Dense subsets. Baire category theorem.

Section-IV

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

Books Recommended

- T.M. Apostol, Mathematical Analysis, Narosa Publishing House, New Delhi, 1985.
- R.R. Goldberg, Real Analysis, Oxford & IBH Publishing Co. New Delhi, 1985.
- E.T. Copson, Metric Spaces, Cambridge University Press, 1968.
- G.F. Simmons, Introduction to Topology and Modern Analysis McGraw-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, Narosa Publishing -House, New Delhi.
- Peter V.O. Neil, Advanced Engineering Mathematics, 11 Company, USA.
- Alan Jafferey, Advanced Engineering Mathematics, Harcourt 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.
- Lipschitz 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 7 short-answer type questions each of 1 mark covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 7 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 Quotients of an Integral Domain. Euclidean 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 $R[x_1, x_2, \dots, x_n]$.

Section III

Definition and 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 Eastern 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, Prentice 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, Narosa Publishing House, 1997
7. L.S.Luther and I.B.S. Passi Algebra, Vol 1 Group, Vol 2 Rings, Narosa Publishing House (Vol-I 1996, Vol-II,1999) ...”
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, Engineering 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 6 short-answer type questions each of 1 mark covering the entire syllabus. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 6 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 Puppating 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 Numerical 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

Time: 3Hrs

Marks: 100

Unit-I संस्कृत वाग्व्यवहार

अंक 10

संस्कृत व्यवहार साहस्री (प्रकाशक संस्कृत भारती, माता मन्दिर गली, झण्डेवालान,
नई दिल्ली (19 वाणिज्यम् 20 वातावरणम् 21 गृहसम्भाषणम् 22 पितरः पुत्राः च 23 माता पितरौ
24 पुत्राः 25 अतिथिः 26 संकीर्ण वाक्यानि)

Unit-II संस्कृत ग्रन्थानुशीलनम्

अंक 25

अभिज्ञानशाकुन्तलम् (श्लोकों व सूक्तियों की व्याख्या, आलोचनात्मक प्रश्न व सार)

Unit-III संस्कृत साहित्येतिहास :

अंक 20

- (क) संहिता, ब्राह्मण, आरण्यक, उपनिषद् व वेदाङ्ग साहित्य
(ख) रामायण, महाभारत, अश्वघोष, भास, कालिदास, बाणभट्ट, सुबन्धु, दण्डी,
भवभूति, भारवि, श्री हर्ष, माघ, अम्बिकादत्त व्यास
(लेखकों व कृतियों का सामान्य परिचय)

Unit-IV लघु सिद्धांतकौमुदी

अंक 25

- (क) कारक प्रकरण
(ख) स्त्री प्रत्यय प्रकरण
(अशुद्धि शोधन, वाक्य रचना व सूत्रों की व्याख्या)

Unit-V अलंकारः निबन्ध

अंक 20

- (क) अलंकारः अनुप्रास, श्लेश, यमक, उपमा, उत्प्रेक्षा, रूपक, अर्थान्तरन्यास,
अतिशयोक्ति, विभावना, विशेषोक्ति
(ख) सरल विषयों पर सरल संस्कृत में निबन्ध

दिशा निर्देशः—

Unit I: आठ में से किन्हीं पाँच प्रश्नों के संस्कृत में उत्तर

5x2=10

Unit II: (क) चार में से दो श्लोकों की व्याख्या

2x6=12

(ख) दो में से एक सूक्ति की व्याख्या

1x8=08

(ग) चरित्र चित्रण अथवा अंक सार

1x5=05

Unit III: (क) दो में से एक प्रश्न

1x8=08

(ख) चार में से दो टिपणी

2x6=12

Unit IV: (क) i. चार में से दो सूत्रों की व्याख्या

2x5=10

ii. चार अशुद्ध प्रयोगों में से दो को शुद्ध करना

2x5=10

(ख) आठ में से पाँच पदों में प्रकृति अथवा प्रत्यय प्रदर्शन

5x1=05

Unit V: (क) चार में से दो अलंकारों के लक्षण व उदाहरण

2x5=10

(ख) चार में से एक विषय पर संस्कृत में निबन्ध लेखन

1x10=10