

## SCHEME OF EXAMINATIONS

### Bachelor of Arts (B.A.)

(Three Years Program)

2023-24

**FIRST YEAR**

**First Semester**

**NOTE:** Students will have to choose any two subjects by selecting one from each group. The subject once opted will not be changed in subsequent semester(s).

Paper Code	Nomenclature	Term End Examination (Theory)	Assignment	Total Marks	Exam Time
<b>Compulsory Subjects</b>					
BA1001-IOM	English-I	80	20	100	3 Hours
BA1002-IOM	Hindi-I	80	20	100	3 Hours
<b>Elective Subjects</b>					
<b>Group I</b>					
BA1003-IOM	History of India (Earlier to 1200 AD)	80	20	100	3 Hours
BA1004-IOM	Micro Economics	80	20	100	3 Hours
BA1005-IOM	Elements of Public Administration – I	80	20	100	3 Hours
<b>Group II</b>					
BA1006-IOM	Political Theory – I	80	20	100	3 Hours
BA1007-IOM	Algebra	27	80	20	100
	Calculus	27			3 Hours
	Solid Geometry	26			3 Hours
BA1008-IOM	Sanskrit –I	80	20	100	3 Hours
<b>Qualifying Subject</b>					
BA1009-IOM	Environmental Studies*	80	20	100	3 Hours

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

### Second Semester

Paper Code	Nomenclature	Term End Examination (Theory)	Assignment	Total Marks	Exam Time
BA2001-IIOM	English – II	80	20	100	3 Hours
BA2002-IIOM	Hindi – II	80	20	100	3 Hours
<b>Group I</b>					
BA2003-IIOM	History of India (1200 AD to 1526 AD)	80	20	100	3 Hours
BA2004-IIOM	Indian Economic Problems	80	20	100	3 Hours
BA2005-IIOM	Elements of Public Administration – II	80	20	100	3 Hours
<b>Group II</b>					
BA2006-IIOM	Political Theory – II	80	20	100	3 Hours
BA2007-IIOM	Algebra and Trigonometry	27	80	20	100
	Ordinary Differential Equations	27			3 Hours
	Vector Calculus	26			3 Hours
BA2008-IIOM	Sanskrit – II	80	20	100	3 Hours

**2024-25**  
**SECOND YEAR**  
**Third Semester**

Paper Code	Nomenclature	Term End Examination (Theory)	Assignment	Total Marks	Exam Time
BA3001-IIIOM	English – III	80	20	100	3 Hours
BA3002-IIIOM	Hindi – III	80	20	100	3 Hours
<b>Group I</b>					
BA3003-IIIOM	History of India (C.A.D. 1526 to 1707 AD)	80	20	100	3 Hours
BA3004-IIIOM	Macro Economics – I	80	20	100	3 Hours
BA3005-IIIOM	Bhartiya Parshashan - I	80	20	100	3 Hours
<b>Group II</b>					
BA3006-IIIOM	Bhartiya Sarkar And Rajniti - I	80	20	100	3 Hours
BA3007-IIIOM	Advanced Calculus - I	27	80	20	100
	Partial Differential Equations – I	27			
	Mechanics- I	26			
BA3008-IIIOM	Sanskrit - III	80	20	100	3 Hours

**Fourth Semester**

Paper Code	Nomenclature	Term End Examination (Theory)	Assignment	Total Marks	Exam Time
BA4001-IVOM	English-IV	80	20	100	3 Hours
BA4002-IVOM	Hindi-IV	80	20	100	3 Hours
<b>Group I</b>					
BA4003-IVOM	History of India (1707 AD to 1947)	80	20	100	3 Hours
BA4004-IVOM	Macro Economics – II	80	20	100	3 Hours
BA4005-IVOM	Bhartiya Parshashan – II	80	20	100	3 Hours
<b>Group II</b>					
BA4006-IVOM	Bhartiya Sarkar And Rajniti - II	80	20	100	3 Hours
BA4007-IVOM	Advanced Calculus - II	27	80	20	100
	Partial Differential Equations – II	27			
	Mechanics- II	26			
BA4008-IVOM	Sanskrit - IV	80	20	100	3 Hours

**2025-26**  
**THIRD YEAR**  
**Fifth Semester**

Paper Code	Nomenclature	Term End Examination (Theory)		Assignment	Total Marks	Exam Time
BA5001-VOM	English – V	80		20	100	3 Hours
BA5002-VOM	Hindi – V	80		20	100	3 Hours
<b>Group I</b>						
BA5003-VOM	History of Modern World	80		20	100	3 Hours
BA5004-VOM	Development and Environmental Economics	80		20	100	3 Hours
BA5005-VOM	Public Administration Local Govt. and Administration in India - I	80		20	100	3 Hours
<b>Group II</b>						
BA5006-VOM	Political Science Comparative Govt. and Politics - I	80		20	100	3 Hours
BA5007-VOM	Real Analysis – I	27	80	20	100	3 Hours
	Groups and Rings	27				3 Hours
	Programming in C (Theory)	26				3 Hours
BA5008-VOM	Sanskrit - V	80		20	100	3 Hours

**Sixth Semester**

Paper Code	Nomenclature	Term End Examination (Theory)		Assignment	Total Marks	Exam Time
BA6001-VIOM	English-VI	80		20	100	3 Hours
BA6002-VIOM	Hindi-VI	80		20	100	3 Hours
<b>Group I</b>						
BA6003-VIOM	History of Twentieth Century World.	80		20	100	3 Hours
BA6004-VIOM	International Economics	80		20	100	3 Hours
BA6005-VIOM	Public Administration Local Govt. and Administration in India – II	80		20	100	3 Hours
<b>Group II</b>						
BA6006-VIOM	Political Science Comparative Govt. and Politics - II	80		20	100	3 Hours
BA6007-VIOM	Real Analysis – II	27	80	20	100	3 Hours
	Linear Algebra	27				3 Hours
	Numerical Analysis	26				3 Hours
BA6008-VIOM	Sanskrit - VI	80		20	100	3 Hours

**BACHELOR OF ARTS**  
**FIRST YEAR**  
**First Semester**  
**English - I**  
**Paper Code BA1001-IOM**

**Time: 3 Hrs.**

**Maximum Marks: 80**

**Prescribed Book: literature & Language - I**

**Rana, Randeep, Jaibir S. Hooda and Loveleen Mohan eds. Language and Literature. Orient Black Swan.**

**Scheme of Examination**

- Question 1.** Explanation with reference to the context: Students will be required to attempt any two out of the given three passages. **2x5=10**
- 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. **7 ½ x2=15**
- 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. This will be “Do as Directed” type question. Students will be required to attempt any ten out of the given fifteen items. **14**
- Question 5** (B) Grammar: tense, voice, This will be “Do as Directed” type question. Students will be required to attempt any 10 out of the given fifteen items. **14**
- 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. **7**

**English - I**  
**Paper Code BA1001-IOM**

**Literature & Language –I**

- Unit-I            Choosing Our Universe  
                      Are Dams the Temples of Modern India
- Unit-II            The Generation Gap  
                      Language and National Identity
- Unit – III        Wounded Plants  
                      Playing the English Gentleman
- Unit – IV        Great Books Born out of Great Minds (Dr. APJ Kalam)  
                      The Responsibility of Young Men
- Unit- V            Bharat Mata

**FIRST SEMESTER**  
**HINDI**  
**हिन्दी – I**  
**PAPER CODE BA1002-IOM**

**Time: 3Hrs**

**Marks: 80**

पाठ्य पुस्तक :

1. 'काव्य शिखर' – प्राचीन एवं मध्ययुगीन काव्य पर आधारित संज्ञक पुस्तक सं. डॉ. नरेश मिश्र, हिन्दी विभागाध्यक्ष म.द.विश्वविद्यालय, रोहतक।

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 आठ व्याख्याएं पूछी जाएंगी। परीक्षार्थियों को उनमें से किन्हीं चार की सप्रसंग व्याख्या करनी होगी। प्रत्येक व्याख्या 7 अंक की होगी और पूरा प्रश्न 28 अंकों का होगा।  
**अंक 7 X 4 : 28**
2. चार कवियों में से को दो कवियों का साहित्यिक परिचय पूछा जाएगा। इस प्रश्न के लिए 16 अंक निर्धारित हैं।  
**अंक 8 X 2 : 16**
3. निर्धारित कवियों में से चार पर अनुशीलनी में से चार आलोचनात्मक प्रश्न पूछे जाएंगे। परीक्षार्थियों को किन्हीं दो का उत्तर देना होगा। इस प्रश्न के लिए 16 अंक निर्धारित हैं।  
**अंक 8 X 2 : 16**
4. अन्तिम प्रश्न काव्य शिखर की अनुशीलनी के व्याकरण पर आधारित होगा, जिसके लिए 20 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 X 2 : 20**

**FIRST SEMESTER  
HISTORY  
HISTORY OF INDIA  
(Earlier to 1200 AD)  
PAPER CODE: BA1003-IOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No.1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 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.

**Section II**

**The Vedic Age (c. 1500 B.C. to 600 B.C.)**

1. Society, Polity, economy, culture and religion as reflected in the Vedic literature
2. Social developments-varna, Jati, marriage and property relations.
3. Rise of territorial states.
4. Rise of new religious movements in north India, Doctrines and social dimension of early Buddhism and Jainism.

**Section III**

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 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 Kushana's Empire

**Suggested Readings :**

- |                                  |  |
|----------------------------------|--|
| Jha, D.N.                        | <i>Prachin Bharat</i> , Hindi Madhyam Karyanvaya Nideshalaya, University of Delhi, 1995            |
| Jha , D.N.and K.M. Srimali (ed.) | <i>Prachin Bharat ka Itihas</i> , Hindi Madhyam Karyanvaya Nideshalaya , University of Delhi, 2007 |
| Majumdar, R.C.                   | <i>Prachin Bharat</i> , Motilal Banarsidass, Delhi, 1973   |

- Mukharjee, R.K. *Prachin Bharat*, Raj Kamal Prakashan, New Delhi, 1990
- Pandey, A.B. *Purva Madhyakalin Bharat*, Central Book Depot, Allahabad, 1999 (Rev. edn.)
- Raychaudhry, H.C.: *Political History of Ancient India*, University of Calcutta, 1972
- Sharma, R.S. *Aspects of Political Ideas and Institutions in Ancient India* Motilal Banarasidass, Delhi, 1996 (Rev. Edn.)
- Sharma, R.S. *Prarambhik Bharat ka Aarthik aur Samajik Itihas*, Hindi Madhyam Karyanvaya Nidishalaya, University of Delhi, 2000.
- Thapar, Romila *Adikalin Bharat ki Vyakhya*, Granth Shilpi, Delhi, 2008
- ” *Ancient Indian Social History*, Orient Longman, New Delhi, 2004
- ” *A History of India*, Vol. I, Penguin, 1966
- ” *Ashok aur Maurya Samrajya ka Patan*, Granth Shilpi, Delhi, 1997
- ” *Interpreting Ancient India*, Granth Shilpi, New Delhi, 1985
- ” *Vansh se Rajya Tak*, Granth Shilpi, New Delhi, 2004



**FIRST SEMESTER  
ECONOMICS  
MICRO ECONOMICS  
PAPER CODE BA1004-IOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

**Unit I**

**Introduction:** Nature and scope of economics, choice as an economic problem. **Elasticity of demand:** Price, Income and Cross Elasticity of demand.

**Unit II**

**Consumer's Behavior:** Utility- Cardinal and ordinal approaches: Indifference curve: Consumer's equilibrium (Hicks and Slutsky); Consumer's Surplus.

**Unit III**

**Theory of production:** Production function, ISO-quant, Law of variable proportions; Returns to scale.

**Theory of cost:** Different concepts of costs and their interrelations.

**Unit IV**

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

**FIRST SEMESTER  
PUBLIC ADMINISTRATION  
ELEMENTS OF PUBLIC ADMINISTRATION-I  
PAPER CODE: BA1005-IOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

Organisation: Meaning and basis, Principles of Organisation: Hierarchy, Span of Control, Decentralization, Supervision and Control, Communication. Public Relation: Meaning, Methods and significance; Administrative Law; Delegated Legislation; Administrative Tribunals.

Forms of Administrative Organisation: Department; Public Corporation; Parliamentary and Govt. Control over Public Corporation; Independent Regulatory Commission; Staff and Line Agencies.

**Suggested Books:**

- B.L. Fadia & K. Fadia, Public Administration (Administrative Theories), Sahitya Bhawan Publication, Agra, 2015.
- Bidyut Chakrabarty and Prakash Chand, Public Administration in a Globalizing World: Theories and Practices, Sage, New Delhi, 2012.
- Smita Srivatava, Theory and Practice of Public Administration, Pearson, Noida (U.P), 2011.
- D.Ravindra Prasad and Y. Pardhasaradhi (eds.), Public Administration: Concepts, Theories and Principles (Eng), Telugu Akademi, Hyd, 2011.
- Hoshiar Singh and Pradeep Sachdeva, Public Administration Theory & Practice, Pearson Education India, 2010.
- Siuli Sarkar, Public Administration in India, PHI, New Delhi, 2009.
- Shafritz Jay M. (ed.), Defining Public Administration, Jaipur; Rawat Publications, 2007.
- Dubey, R.K., Aadhunik Lok Prashasan: Modern Public Administration, Laxmi Narayan Agarwal Publishers, Agra, 2007.
- Sharma M.P. & Sadana B.L., Public Administration in Theory and Practice, Allahabad: Kitab Mehal, 2003.
- Avasthi, A. & Maheshwari, S.R., Public Administration, Agra: Laxmi Narain Aggarwal, 2001.
- K.K. Puri and G.S. Brara, Public Administration: Theory and Practice, Bharat Prakashan, Jalandhar, 2000.
- Sharma, P.D. & Sharma, H.C., Theory and Practices of Public Administration, New Delhi: College Book Depot, 1998.
- Naidu, S.P., Public Administration: Concepts and Theories, New Age International Publishers, New Delhi, 1996.
- Bhambri, C.P., Public Administration, Delhi: Vikas Publishers, 1991
- Bhattacharya, M. Public Administration: Structure, Process and Behaviour, Calcutta: The World Press, 1991.
- Negro, F.A. & Nigro, G.N. Modern Public Administration, New York: Harper & Row Publishers, 1980.
- Dimock, M.E. Dimock, G.O. Public Administration, Oxford: IBH Publishing Company, 1975.
- While, L.D., Introduction to the Study of Public Administration, New York: Maxmillan Company, 1958.

**FIRST SEMESTER  
POLITICAL SCIENCE  
POLITICAL THEORY - I  
PAPER CODE: BA1006-IOM**

**Time: 3 Hrs**

**Marks: 80**

**Note:** Examiner will be required to set NINE questions in all, four in part 'A' and four in Part 'B'. In part C, Question No. 9 is compulsory, consisting of 8 objective type questions of 2 marks each spread over the entire syllabus. In addition to question no. 9, candidate will be required to attempt 4 more questions, selecting two questions each from part 'A' and 'B'.

**Part-A**

Nature and significance of Political Theory  
Power and Authority

**Part-B**

Citizenship, Rights and Liberty  
Equality and Justice

**Part-C**

Eight Object type questions (multiple choice) spread over the entire 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 Mcllellan, 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.

**FIRST SEMESTER - I**  
**MATHEMATICS**  
**Paper Code : BA1007-IOM**  
**Algebra**

**Time : 3 Hrs.**

**Marks : 27**

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **seven** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

**Section – I**

Symmetric, Skew-symmetric, Hermitian and skew Hermitian matrices. Elementary Operations on matrices. Rank of a matrices. Inverse of a matrix. Linear dependence and independence of rows and columns of matrices. Row rank and column rank of a matrix. Eigenvalues, eigenvectors and the characteristic equation of a matrix. Minimal polynomial of a matrix. Cayley Hamilton theorem and its use in finding the inverse of a matrix. 1x5=5

**Section – II**

Applications of matrices to a system of linear (both homogeneous and non-homogeneous) equations. Theorems on consistency of a system of linear equations. Unitary and Orthogonal Matrices, Bilinear and Quadratic forms. 1x5=5

**Section – III**

Relations between the roots and coefficients of general polynomial equation in one variable. Solutions of polynomial equations having conditions on roots. Common roots and multiple roots. Transformation of equations. 1x5=5

**Section – IV**

Nature of the roots of an equation Descarte's rule of signs. Solutions of cubic equations (Cardon's method). Biquadratic equations and their solutions. 1x5=5

**Section – V**

1x7=7

**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, 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, Trigonometry, Schaum Outline Series, Tata McGraw Hill.
18. Rich, Eiementry Algebra, Schaum Outline Series, Tata McGraw Hill.

## Calculus

Time : 3 Hrs.

Marks : 27

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **seven** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

### Section – I

Successive differentiation. Leibnitz theorem. Maciaurin and Taylor series expansions. Asymptotes.

1x5=5

### Section – II

Curvature. Tests for concavity and convexity. Points of inflexion. Multiple points. Tracing of curves in Cartesian and polar coordinates.

1x5=5

### Section – III

Reduction formulae. Quadrature.

1x5=5

### Section – IV

Rectification. Volumes and surfaces of solids of revolution.

1x5=5

### Section – V

1x7=7

### 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.

## Solid Geometry

Time : 3 Hrs.

Marks : 26

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **six** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

### Section – I

General equation of second degree. Tracing of conics. 1X5=5

### Section – II

System of conics. Confocal Conics. Polar equation of conic. 1X5=5

### Section – III

General coincides, Paraboloids. Plane. Sections of Coincides. Generating lines. 1X5=5

### Section – IV

Confocal coincides. Reduction -of Second Degree equation. Sphere, Cone, Cylinder 1X5=5

### Section – V

1x6=6

### Books Recommended:

1. R.J.T. Bill, Elementary Treatise on Coordinary Geometry of Three Dimensions, MacMillan India Ltd. 1994.
2. P.K. Jain and Khalil Ahmad : A Textbook of Analytical Geometry of Three Dimensions, Wiley Eastern Ltd. 1999.

**(प्रथम सेमेस्टर)**  
**SANSKRIT**  
**संस्कृत - I**  
**PAPER CODE BA1008-IOM**

**Time: 3Hrs**

**Marks: 80**

**Unit-I संस्कृत वाग्व्यवहारः**

अंक 16

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 48

(क) हितोपदेशः (मित्रलाभः)

(ख) दूतवाक्यम् (भासविरचितम्)

(ग) शुकनासोपदेशः (कादम्बरीतः)

(पाठ्यांशों की व्याख्या व सार आदि)

**Unit-III अनुवाद**

अंक 16

हिन्दी से संस्कृत में सरल अनुवाद

दिशा निर्देशः—

**Unit I:** चौदह में से किन्हीं आठ प्रश्नों के संस्कृत में उत्तर

8x2=16

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

4x4=16

(ख) आठ में से चार संदर्भों की व्याख्या

4x4=16

(ग) आठ में से चार गद्यांशों की व्याख्या

4x4=16

**Unit III:** चौदह में से आठ वाक्यों का संस्कृत में अनुवाद

8x2=16

**FIRST SEMESTER  
ENVIRONMENTAL STUDIES  
(QUALIFYING SUBJECT)  
PAPER CODE:BA1009-IOM**

**Max Marks: 80  
Assignment: 20**

**Time: 3Hrs**

**Note:** - The Examiner shall set nine questions in all covering the whole syllabus. Question No.1 will be compulsory covering all the units and shall carry 8 small questions of 2 marks each. The rest of the eight questions will be set from all the four units. The examiner will set two questions from each unit out of which the candidate shall attempt four questions selecting one question from each unit. All the questions shall carry 16 marks each.

**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 waste 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 ecosystem-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).

**SECOND SEMESTER**  
**ENGLISH**  
**English - II**  
**Paper Code BA2001-IIOM**

**Time: 3 Hrs.**

**Maximum Marks: 80**

**Prescribed Book: literature & Language - II**

**Rana, Randeep, Jaibir S. Hooda and Loveleen Mohan eds. Language and Literature. Orient Black Swan.**

**Scheme of Examination**

- Question 1.** Explanation with reference to the context: Students will be required to attempt any two out of the given three passages. **2x5=10**
- 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. **7 ½ x2=15**
- 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: Verb, Preposition, Modal And Conjunction. This will be “Do as Directed” type question. Students will be required to attempt any ten out of the given fifteen items. **14**
- Question 5** (B) Grammar: Narration and Phrasal Verbs. This will be “Do as Directed” type question. Students will be required to attempt any ten out of the given fifteen items. **14**
- 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. **7**

**English - II**  
**Paper Code BA2001-IIOM**

**Literature & Language –II**

- Unit-I        Pigeons at Daybreak
- Unit-II        With the Photographer  
                  The Journey
- Unit–III      The Refugee  
                  Bellows for the Bullock ( A Haryanavi Folk Tale )
- Unit – IV     Panchlight  
                  The Child
- Unit- V        The Blind Dog
- Unit- VI      Essay

**SECOND SEMESTER**  
**HINDI**  
**हिन्दी – II**  
**PAPER CODE BA2002–IIOM**

**Time: 3Hrs**

**Marks: 80**

1. “गद्य–शिखर” नामक गद्य संकलन सं. हिन्दी विभागाध्यक्ष, कु. विश्वविद्यालय जिसमें पांच कहानियां और पांच निबन्ध संकलित हैं।

**निर्देश :-**

1. निर्धारित पाठ्य पुस्तक गद्य–शिखर में संकलित निबन्धों और कहानियों में से व्याख्या के लिए चार–चार अवतरण दिए जाएंगे, जिनमें से परीक्षार्थियों को प्रत्येक से दो–दो अवतरण की सप्रसंग व्याख्या करनी होगी। प्रत्येक व्याख्या 7 अंकों की और पूरा प्रश्न 28 अंकों का होगा।

**अंक 7 X 4 : 28**

2. 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 11 अंकों का होगा।

**अंक 11 X 1 : 11**

3. निर्धारित लेखकों में से किन्हीं चार पर अनुशीलनी में से चार आलोचनात्मक प्रश्न पूछे जाएंगे। परीक्षार्थियों को किन्हीं दो का उत्तर देना होगा। इस प्रश्न के लिए 20 अंक निर्धारित हैं।

**अंक 10 x 2 : 20**

4. 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 7 अंकों का होगा और पूरा प्रश्न 21 अंकों का होगा।

**अंक 7 X 3 : 21**

**SECOND SEMESTER  
HISTORY  
HISTORY OF INDIA  
(1200 AD to 1526 AD)  
PAPER CODE: BA2003 - IIOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

**Section I**

1. Invasions of Ghaznavids and Ghorids; Causes of the success and their impact.
2. Rise and expansion of Delhi Sultanate

**Section II**

1. Delhi Sultanate under the Slave dynasty; Khilji, Tughlaq; Syiad and Lodhi,
2. Society and economy under the Sultanate

**Section III**

3. Religion and culture under the Delhi Sultanate.
4. Bhakti and Sufi movements during the Delhi Sultanate.
5. Art, architecture during the Sultanate.

**Section IV**

**Maps**

1. Political Condition of India on the eve of Delhi Sultanate
2. Extent of Allauddin Khilji's Empire.
3. Extent of Feroj Shah Tuglaq Empire
4. Urban Centres during the Sultanate.

**Suggested Reading**

Chandra, Satish	<i>Madhyakalin Bharat</i> (Sultanate to Mughals), Vol. I & II, Jawahar Publication, New Delhi, 2000, 2001
Dodwell, H.H. (ed.)	<i>The Cambridge History of India</i> , Vol. V, S. Chand & Co., New Delhi, 1986
Habibulla, A.B.M.	<i>Foundation of Muslim Rule in India</i> , Central Book Depot, Allahabad, 1976
Pandey, A.B.	<i>Uttar Madhyakalin Bharat</i> , Vol. III, Panchsheel Prakashan, Kanpur, 1976
Sharma, G. D.	<i>Madhyakalin Bharat ki Samajik, Arthik aur Rajnitik Sansthayen</i> , Rajasthan Hindi Granth Academy, Jaipur, 1990
Srivastava, A.L.	<i>Madhyakalin Bhartiya Sanskriti</i> , Shivilal & Agrawal Company Prakashan, Agra, 1975
Verma, H.C.	<i>Madhyakalin Bharat</i> , Vol. I & II, Hindi Madhyam, Karyanvaya Nideshalaya, University of Delhi, 2000

**SECOND SEMESTER  
ECONOMICS  
INDIAN ECONOMIC PROBLEMS  
PAPER CODE BA2004-IIOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No.1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

**Unit I**

**Introduction:** Basic Characteristics of Indian economy; problem of poverty; inequality and unemployment.

**Unit II**

**Economic Planning in India:** Objectives of planning and its achievements and failures, New economic reforms.

**Unit III**

**Indian Agriculture:** Nature and importance; Trends in agricultural production and productivity, Rural credit, Agricultural marketing.

**Unit IV**

**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.  
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, Mcmillan Company of India Ltd Delhi.

**81**

Raaj, W.J.I (1962) Price Theory, Mcmillan 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.

**SECOND SEMESTER  
PUBLIC ADMINISTRATION  
ELEMENTS OF PUBLIC ADMINISTRATION-II  
PAPER CODE: BA2005-IIOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No.1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

Personnel Administration: Recruitment; Training; Promotion; Public Service Commission; Morale; Joint Consultative Machinery (Whitley Councils).

Preparation and passing of Budget, Audit and its Preparation and Significance, Parliamentary Control over Public Finance. Accountability of Public Administration, Legislative and Judicial. E-Governance in Public Administration.

**Suggested Books:**

- B.L. Fadia & K. Fadia, Public Administration (Administrative Theories), Sahitya Bhawan Publication, Agra, 2015.
- Bidyut Chakrabarty and Prakash Chand, Public Administration in a Globalizing World: Theories and Practices, Sage, New Delhi, 2012.
- Smita Srivastava, Theory and Practice of Public Administration, Pearson, Noida (U.P), 2011.
- D.Ravindra Prasad and Y. Pardhasaradhi (eds.), Public Administration: Concepts, Theories and Principles (Eng), Telugu Akademi, Hyd, 2011.
- Hoshiar Singh and Pradeep Sachdeva, Public Administration Theory & Practice, Pearson Education India, 2010.
- Siuli Sarkar, Public Administration in India, PHI, New Delhi, 2009.
- Shafritz Jay M. (ed.), Defining Public Administration, Jaipur; Rawat Publications, 2007.
- Dubey, R.K., Aadhunik Lok Prashasan: Modern Public Administration, Laxmi Narayan Agarwal Publishers, Agra, 2007.
- Sharma M.P. & Sadana B.L., Public Administration in Theory and Practice, Allahabad: Kitab Mehal, 2003.
- Avasthi, A. & Maheshwari, S.R., Public Administration, Agra: Laxmi Narain Aggarwal, 2001.
- K.K. Puri and G.S. Brara, Public Administration: Theory and Practice, Bharat Prakashan, Jalandhar, 2000.
- Sharma, P.D. & Sharma, H.C., Theory and Practices of Public Administration, New Delhi: College Book Depot, 1998.
- Naidu, S.P., Public Administration: Concepts and Theories, New Age International Publishers, New Delhi, 1996.
- Bhambri, C.P., Public Administration, Delhi: Vikas Publishers, 1991
- Bhattacharya, M. Public Administration: Structure, Process and Behaviour, Calcutta: The World Press, 1991.
- Negro, F.A. & Nigro, G.N. Modern Public Administration, New York: Harper & Row Publishers, 1980.
- Dimock, M.E. Dimock, G.O. Public Administration, Oxford: IBH Publishing Company, 1975.
- While, L.D., Introduction to the Study of Public Administration, New York: Maxmillan Company, 1958.



**SECOND SEMESTER  
POLITICAL SCIENCE  
POLITICAL THEORY - II  
PAPER CODE: BA2006-IIOM**

**Time: 3 Hrs**

**Marks: 80**

**Note:** Examiner will be required to set NINE questions in all, four in part 'A' and four in Part 'B'. In part C, Question No. 9 is compulsory, consisting of 8 objective type questions of 2 marks each spread over the entire syllabus. In addition to question no. 9, candidate will be required to attempt 4 more questions, selecting two questions each from part 'A' and 'B'.

**Part-A**

State: Original and Development  
State: Dominant Perspectives  
Sovereignty

**Part-B**

Democracy  
Development and Welfare State  
Theories of Social change

**Part-C**

Eight Object type questions (multiple choice) spread over the entire 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.

**SECOND SEMESTER  
MATHEMATICS  
Paper Code : BA2007-IIOM  
Algebra and Trigonometry**

**Time : 3 Hrs.**

**Marks : 27**

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **seven** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

**Section – I**

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. 1x5=5

**Section – II**

Complete 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. 1x5=5

**Section - III**

De Moivre's Theorem and its Applications. Expansion of trigonometrical functions. Direct circular and hyperbolic functions and their properties. 1x5=5

**Section – IV**

Inverse circular and hyperbolic functions and their properties. Logarithm of a complex quantity. Gregory's series. Summation of Trigonometry series. 1x5=5

**Section – V**

1x7=7

**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, Trigonometry, Schaum Outline Series, Tata McGraw Hill.
18. Rich, Eiementry Algebra, Schaum Outline Series, Tata McGraw Hill.

## Ordinary Differential Equations

Time : 3 Hrs.

Marks : 27

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **seven** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

### Section – I

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. 1x5=5

### Section – II

Orthogonal trajectories. Linear differential equations with constant coefficients: Homogeneous linear ordinary differential equations. Total/differential equations. 1x5=5

### Section – III

Linear differential equations of second order,  $I$  Transformation of the equation by changing-the dependent variable/the independent variable, reduction of order. 1x5=5

### Section – IV

Method of variation of parameters and unknown coefficients, Ordinary simultaneous differential equations. 1x5=5

### Section – V

1x7=7

### 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.

## Vector Calculus

Time : 3 Hrs.

Marks : 26

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **six** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

### Section – I

Scalar and vector product of three vectors. Product of four vectors. Reciprocal Vectors.

1x5=5

### Section – II

Vector Differentiation. Gradient.

1x5=5

### Section – III

Divergence and Curl.

1x5=5

### Section – IV

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

1x5=5

### Section – V

1x6=6

### Books Recommended:

1. Murraray R. Spiegel, Theory and Problems of Advanced Calculus, Schaum Publishing Company, New York.
2. Murraray R. Spiegel, Vector Analysis, Schaum Publisghing Company, New York.
3. N. Saran and S.N. Nigam, Introduction to Vector Analysis, Pothishala Pvt. Ltd., Allahabad.
4. Shanti Narayna, A Text Book of Vector Calculus. S. Chand & Co., New Delhi.

**(द्वितीय सेमेस्टर)**  
**SANSKRIT**  
**संस्कृत - II**  
**PAPER CODE BA2008-IIOM**

**Time: 3Hrs**

**Marks: 80**

**Unit-I संस्कृत व्याकरणम्**

अंक 48

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

**Unit-II छन्द**

अंक 27

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

**Unit III कण्ठस्थश्लोकाः**

अंक 5

- कण्ठस्थ चार श्लोकों का शुद्ध लेखन (प्रश्न पत्र में छपे श्लोकों से भिन्न)

दिशा निर्देशः—

- Unit I:** (क) आठ शब्दों में से किन्हीं चार के सम्पूर्ण रूप 4x4=16  
(ख) आठ धातुओं में से किन्हीं चार के पूछे गए दो लकारों में सम्पूर्ण रूप (लट्, लृट्, लोट्, लङ्, विधिलिङ्, लकार) 4x4=16  
(ग) चौदह में से किन्हीं आठ प्रयोगों में सन्धि अथवा सन्धिविच्छेद 8x2=16
- Unit II:** छः में से किन्हीं तीन छंदों में लक्षण व उदाहरण 9x3=27
- Unit III:** कण्ठस्थ दो श्लोकों का लेखन (प्रश्न पत्र से भिन्न) 2½x2=5

**BACHELOR OF ARTS  
SECOND YEAR  
THIRD SEMESTER  
English - III  
Paper Code BA3001-IIIOM**

**Time: 3 Hrs.**

**Maximum Marks: 80**

**Prescribed Book: literature & Language – III**

**Instructions to the Paper Setters and Students.**

- Question 1.** Explanation with reference to the context: Students will be required to attempt any two out of the given three passages. **5x2=10**
- 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 questions. **7 ½ x2=15**
- Question 4.** Student will be required to write short notes on any four of the given six poetic forms devices. **10**
- Question 5.** Grammar: Clauses- Noun, Adverbial and Conditional; This will be a “Do as Directed” type question. Students will be required to attempt any twenty out of the given thirty items. **20**
- Question 6** Translation of a short passage from English to Hindi **5**
- Question 7** Dialogue Writing: Students will be required to compose dialogues on one of the given three topics (in about 150 words). **5**

**Third Semester**  
**English - III**  
**Paper Code BA3001 - IIIOM**

**Literature & Language –III (Centre Stage)**

Unit-I        The Envoy

Unit-II        The Swan Song

Unit – III     The Monkey's Paw

Unit – IV     Before Breakfast

Unit- V        Poetic form and Devices  
Irony, Imagery, Paradox, Symbolism, Satire, Personification, Allusion, Hyperbole,  
Synecdoche, Metonymy

**THIRD SEMESTER**  
**HINDI**  
**हिन्दी-III**  
**PAPER CODE BA3002-IIIM**

**Time: 3Hrs**

**Marks: 80**

पाठ्य पुस्तक / पाठ्य विषय

1. अभिनव काव्य गरिमा स. डॉ. राम नरेश मिश्र, प्रकाशक खाटू श्याम प्रकाशन, रोहतक, दिल्ली।
2. अंधेर नगरी-भारतेन्दु हरिश्चन्द्र।
3. जहाज का पंछी (संक्षिप्त संस्करण) इलाचन्द जोशी।

निर्देश :-

1. काव्य पुस्तक से व्याख्या के लिए छः पद्यावरण पूछे जाएंगे जिनमें से परीक्षार्थियों को चार की व्याख्या करनी होगी। प्रत्येक व्याख्या 6 अंकों की होगी। पूरा प्रश्न 24 अंकों का होगा। **अंक 6 X 4 : 24**
2. काव्य पुस्तक से संबंधित चार कवियों का साहित्यिक परिचय पूछा जाएगा जिनमें से परीक्षार्थियों को किन्ही दो का उत्तर देना होगा। यह प्रश्न 22 अंकों का होगा। **अंक 11x2 : 22**
3. अंधेर नगरी से छः लघूत्तरी प्रश्न पूछे जाएंगे जिनमें से परीक्षार्थियों को चार प्रश्नों के उत्तर देने होंगे प्रत्येक प्रश्न 4 अंकों का होगा। **अंक 4 x 4 : 16**
4. "जहाज का पंछी" उपन्यास से पाँच आलोचनात्मक प्रश्न पूछे जाएंगे। जिनमें से परीक्षार्थियों को 3 प्रश्नों के उत्तर देने होंगे। प्रत्येक प्रश्न 6 अंकों का होगा। **अंक 6 x 3 : 18**



**THIRD SEMESTER  
HISTORY  
HISTORY OF INDIA  
(C.A.D 1526 to 1707 AD)  
PAPER CODE: BA3003-IIIOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

**Section I**

**1. Reconstructing and Interpreting Medieval India:** Definition, Sources

1. Mughal Empire 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..

**Section III**

1. Socio-Religious Life during Medieval Period : Bhakti Movement, Sufi Movement, Din-e-Ilahi, Art and Architecture
2. Decline and disintegration of Mughal Empire
3. Advent of European powers : Portuguese; French; and English.

**Section IV**

**Maps**

1. Political Condition of India in 1526.
2. Mughal Empire at the death of Akbar (1605).
3. Centres of Advent of European powers.

**Suggested Readings**

Chandra, Satish	<i>Madhyakalin Bharat</i> (Sultanate to Mughals), Vol. I & II, Jawahar Publication, New Delhi, 2000, 2001
Dodwell, H.H. (ed.)	<i>The Cambridge History of India</i> , Vol. V, S. Chand & Co., New Delhi, 1986
Habibulla, A.B.M.	<i>Foundation of Muslim Rule in India</i> , Central Book Depot, Allahabad, 1976
Pandey, A.B.	<i>Uttar Madhyakalin Bharat</i> , Vol. III, Panchsheel Prakashan, Kanpur, 1976
Sharma, G. D.	<i>Madhyakalin Bharat ki Samajik, Arthik aur Rajnitik Sansthayen</i> , Rajasthan Hindi Granth Academy, Jaipur, 1990
Srivastava, A.L.	<i>Madhyakalin Bhartiya Sanskriti</i> , Shivlal & Agrawal Company Prakashan, Agra, 1975
Verma, H.C.	<i>Madhyakalin Bharat</i> , Vol. I & II, Hindi Madhyam, Karyanvaya Nideshalaya, University of Delhi , 2000

**THIRD SEMESTER  
ECONOMICS  
MACRO ECONOMICS - I  
PAPER CODE- BA3004-IIIOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

**Unit I**

**National income:** Concepts and measurement, Say's Law of Market, Classical theory of employment, Keynes' objection to the classical theory; Keynesian theory of employment, Consumption function.

**Unit II**

**Investment:** Autonomous and induced investment; Investment multiplier, Investment Theory of accelerator, MEC.

**Unit III**

**Trade Cycle Theories:** Samuelson and Hicks, Control of trade cycles Growth models: Harrod-Domar model and Solow model.

**Unit IV**

**Money:** meaning functions and significance, Quantity theory of money and Keynesian theory of money.

**THIRD SEMESTER  
PUBLIC ADMINISTRATION  
BHARTIYA PARSHASHAN-I  
PAPER CODE: BA3005-IIIOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 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 Secretariat, Organisation and functions of Union Minister and State Secretariat, role of the Chief Secretary in State Administration.

**Suggested Books:**

- B.L. Fadia & K. Fadia, Indian Administration, Sahitya Bhawan Publication, Agra, 2017.
- Abrar, R., Indian Public Administration, Wisdom Press, New Delhi, 2016.
- Ahmed, Nazim Uddin, Advanced Study of Indian Administration, The Readers Paradise, New Delhi, 2013. Goyal, Vijay Kumar and B.K. Garg, Rural Development Administration, New Delhi: Alfa Publications, 2013.
- Gupta, Jawahar Lal, Indian Administration: Evolution & Development, Wisdom Press, New Delhi, 2013.
- R.K. Arora, Indian Public Administration: Institutions and Issues, New Age International Publishers, New Delhi, 2012 (3rd edition).
- Jha, Rajesh K., Public Administration in India, Pearson Publication, Delhi, 2012.
- Sharma, P.D. & Sharma, B.M., Indian Administration: Retrospect and Prospect, Rawat Publication, Jaipur, 2009.
- Prasad, Kamala, Indian Administration, Politics, Policies and Prospects, New Delhi, Pearson Longman, 2006.
- Chaubey, P.K., Urban Local Bodies in India: Governance with Self-Reliance, New Delhi, IIPA, 2004.
- Dhalimal, S.S., Good Governance in Local Self Government, New Delhi, Deep & Deep, 2004.
- Jain, R.B., Public Administration in India: 21 Century Challenges for Good Governance, New Delhi, Deep & Deep, 2002.
- Maheshwari, S.R., Indian Administration, New Delhi, Orient Longman, 2000.
- Mehta, Vinod, Reforming Administration in India, New Delhi, Har-Anand, 2000.
- Ministry of Personnel Public Grievances and Pension, Annual Reports on Administration, Govt. of India. Kumar, Amnia & Anitha L. Financing of Urban Local Government, Jaipur, Printwell, 1995.
- Mishra, B.B., Government and Bureaucracy in India (1947-1976), New Delhi, OUP, 1986.

**THIRD SEMESTER  
POLITICAL SCIENCE  
BHARTIYA SARKAR AND RAJNITI - I  
PAPER CODE: BA3006-IIIOM**

**Time: 3 Hrs**

**Marks: 80**

**Note:** Examiner will be required to set NINE questions in all, four in part 'A' and four in Part 'B'. In part C, Question No. 9 is compulsory, consisting of 8 objective type questions of 2 marks each spread over the entire syllabus. In addition to question no. 9, candidate will be required to attempt 4 more questions, selecting two questions each from part 'A' and 'B'.

**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.

**Part-B**

Centre-State Relations  
Supreme Court and the Constitutional Process.  
Political Parties : National and Regional Parties.

**Part-C**

Eight Object type questions (multiple choice) spread over the entire 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 and Politics, Delhi University, Directorate of Hindi Implementation, 1990.  
A. Kohli, Democracy and Discontent: India's Growing Crisis of Governability, 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.

**THIRD SEMESTER  
MATHEMATICS  
Paper Code : BA3007-IIIOM  
Advanced Calculus – I**

**Time : 3 Hrs.**

**Marks: 27**

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **seven** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

**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. 1x5=5

**Section – II**

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. 1x5=5

**Section – III**

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. 1x5=5

**Section – IV**

Partial differentiation, Change of variables. Euler's theorem on homogeneous functions. Taylor's theorem for functions of two variables. 1x5=5

**Section – V**

1x7=7

**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. 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.

## Partial Differential Equations - I

Time : 3 Hrs.

Marks: 27

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **seven** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

### Section – I

Series solutions of differential equations-Power series method, Bessel, Legendre and Hyper geometric equations. 1x5=5

### Section – II

Bessel, Legendre and Hyper geometric functions and their properties, recurrence and generating relations. Orthogonally of Bessel functions and Legendre polynomials. 1x5=5

### Section – III

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. 1x5=5

### Section – IV

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. 1x5=5

### Section – V

1x7=7

### 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. Lipsehut, 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.

## Mechanics - I

Time : 3 Hrs.

Marks: 26

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **six** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

Conditions of equilibrium of Coplanar forces.	<b>Section – I</b> Virtual work in two dimensions.	1x5=5
Proof of principle of virtual work and its converse for coplanar forces. Forces which may be omitted in forming the Equation of virtual work.	<b>Section – II</b>	1x5=5
Forces in three dimensions.	<b>Section – III</b>	1x5=5
Stable and unstable equilibrium.	<b>Section – IV</b>	1x5=5
	<b>Section – V</b>	1x6=6

### 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

(तृतीय सेमेस्टर)  
SANSKRIT  
संस्कृत- III  
PAPER CODE: BA3008-IIIOM

Time: 3Hrs

Marks: 80

**Unit-I** संस्कृत वाग्व्यवहार: –

अंक 16

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 48

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

**Unit-III** पत्रलेखनम्

अंक 16

सरल विषयों पर संस्कृत में पत्र लेखन

दिशा निर्देश:-

**Unit I:** चौदह में से किन्हीं आठ प्रश्नों के संस्कृत में उत्तर

8x2=16

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

4x4=16

(ख) आठ में से चार श्लोकों की व्याख्या

4x4=16

(ग) i. चार में से दो श्लोक की व्याख्या

2x4=8

ii. चार में से दो प्रश्न अथवा सार

2x4=8

**Unit V:** चार में से किन्हीं दो विषयों पर संस्कृत में पत्र लेखन

2x8=16



**FOURTH SEMESTER  
ENGLISH  
English - IV  
Paper Code BA4001-IVOM**

**Time: 3 Hrs.**

**Maximum Marks: 80**

**Prescribed Book: literature & Language – IV**

**Instructions to the Paper Setters and Students.**

- Question 1.** Explanation with reference to the context: Students will be required to attempt any two out of the given three passages. **10**
- 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 one question on the prescribed poems and the other on the prescribed plays. There will be internal choice in both the questions. **7 ½ x2=15**
- Question 4.** Student will be required to write short notes on any four of the given six poetic forms devices. **10**
- Question 5.** Grammar: Pre-fix and suffix;. This will be a “Do as Directed” type question. Students will be required to attempt any twenty out of the given thirty items. **20**
- Question 6** Translation of a short passage from English to Hindi **5**
- Question 7** Dialogue Writing: Students will be required to compose dialogues on one of the given three topics (in about 150 words) **5**

**Fourth Semester**  
**English - IV**  
**Paper Code BA4001 - IVOM**

**Literature & Language –IV (Fragrances)**

Unit-I	Sonnet XVIII
Unit – II	Know Then Thyself
Unit - III	Elegy Written in a Country Churchyard
Unit-IV	The World is too much with us
Unit – V	My Last Duchess
Unit – VI	Where the Mind is Without Fear
Unit- VII	The Bangle Sellers
Unit-VIII	Poetic Forms and Devices Sonnet, Lyric, Ode, Elegy, Dramatic Monologue, Free verse, Rhythm and Rhyme, Alliteration, Simile, Metaphor

**FOURTH SEMESTER**  
**HINDI**  
**हिन्दी-IV**  
**PAPER CODE BA4002-IVOM**

**Time: 3Hrs**

**Marks: 80**

1. "अभिनव गद्य गरिमा" कुरुक्षेत्र विश्वविद्यालय।
2. हिंदी साहित्य का इतिहास (आधुनिक काल)।

**निर्देश :-**

1. "अभिनव गद्य गरिमा" से छः गद्यांश पूछे जाएंगे जिनमें से परीक्षार्थी को चार की सप्रसंग व्याख्या करनी होगी। प्रत्येक व्याख्या 6 अंकों की होगी। **अंक 6 x 4 : 24**
2. "अभिनव गद्य गरिमा" से छः लघुत्तरी प्रश्न पूछे जाएंगे। जिनमें से परीक्षार्थियों को किन्हीं चार प्रश्न के उत्तर देने होंगे। प्रत्येक प्रश्न 5 अंकों का होगा। **अंक 5 x 4 : 20**
3. आधुनिक हिन्दी साहित्य के इतिहास से बारह अति लघुत्तरी प्रश्न पूछे जाएंगे जिनमें से परीक्षार्थियों को 9 प्रश्नों का उत्तर देना होगा। प्रत्येक का उत्तर लगभग 50 शब्दों में देना होगा। प्रत्येक प्रश्न 4 अंकों का होगा। पूरा प्रश्न 36 अंकों का होगा। **अंक 4 x 9 : 36**

**FOURTH SEMESTER  
HISTORY  
HISTORY OF INDIA  
(1707A.D. to 1947 )  
PAPER CODE: BA4003-IVOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

**Section I**

- 1. Disintegration of central authority:** Decline of Mughal Empire and Rise of successor states; British Conquest of India: its nature: a brief survey; Eastern India- Bengal; Southern India- Mysore and Marathas ; North and Western India-Awadh, Sind and Punjab
- 2. Consolidation of British rule and resistance:** Administration and Foreign policy; Early resistance and Revolt of 1857

**Section II**

- 1. Society of India:** Social condition in 18<sup>th</sup> century; Indian cultural renaissance; Social impact of British rule
- 2. Economy of India:** Economic condition in 18<sup>th</sup> century; British land revenue policy; Economic impact of British rule

**Section III**

- 1. Emergence of Nationalism:** Causes of the emergence of National Movement; Indian National Congress and National Freedom Movement (1885-1947); Revolutionaries
- 2. Towards Freedom:** Constitutional Development: 1909 to 1935; Emergence of Communal and separatists politics; Negotiations for independence and transfer of power

**Section IV**

**Maps**

1. India during 1764
2. Important places of 1857 Revolt
3. Centers of socio-religious movements.
4. Important places of Revolutionary Movements.
5. Places associated with significant sessions of Indian National Congress

**Suggested Readings:**

Bipan, Chandra(ed.)	<i>Bharat ka Swatantrata Sangharsh</i> , Hindi Madhyam Karyanvay Nideshalay, University of Delhi, 1998
Desai,A.R.	<i>Bhartiya Rashtravad ki Samajik Prishthabhumii</i> , Macmillan, Delhi, 1967
Kashyap, Subhash	<i>Swatantrata Andolan ka Itihas</i> , Hindi Madhyam Karyanvay Nideshalay, University of Delhi,1997
Ray, Satya M.(ed.)	<i>Bharat mein Upniveshwad aur Rashtravad</i> , Hindi Madhyam Karyanvay Nideshalay , University of Delhi,1986
Sarkar,Sumit	<i>Adhunik Bharat</i> , Rajkamal Publication, Delhi, 1999
Sharma, Ramvilas	<i>Swadhinta Sangram ke Badalte Paripeksh</i> , Hindi Madhyam Karyanvay Nideshalay, University of Delhi, 1995
Spear, Percival	<i>Oxford History of India</i> , Oxford University Press, New Delhi,1974
Stokes,Eric	<i>Peasant and the Raj</i> , Cambridge University Press, Delhi, 1975
Sukla,R.L.(ed.)	<i>Adhunik Bharat ka Itihas</i> , Hindi Madhyam Karyanvay Nideshalay, University of Delhi,1990
Tara Chand	<i>History of the Freedom Movement in India</i> , Vol. 1 to 4, The Publication Division, Ministry of Information and Broadcasting, Delhi,1961
Verma, H.C. (ed.)	<i>Madhya Kaleen Bharat,(1540-1761)</i> ,Vol.2 Hindi Madhyam Karyanvay Nideshalay, University of Delhi, 2002

**FOURTH SEMESTER  
ECONOMICS  
MACRO ECONOMICS -II  
PAPER CODE- BA4004-IVOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

**Unit I**

**Theories of Inflation:** Demand Pull and Cost Push; effects and control of inflation.

**Unit II**

**Commercial banks and Central Bank:** Functions; Credit creation and control of money supply; Recent reforms in banking sector in India.

**Unit III**

**Public Finance:** Nature, Scope and Significance; Principle of maximum social advantage; Classification, canons and effects of Public expenditure, canons and effects of taxation; Impact and incidence of taxes; Recent tax reforms in India.

**Unit IV**

**Public Debt:** Sources and effects of public debt; Methods of redemption of Public debt; Recommendations of Tenth 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 University Press, Oxford.  
Gupta, S.B (1994), Monetary Economics, S. Chand and Co., Delhi. - Heijora, B.J. and F.V. Pleg (2001), Foundation of Modern Macroeconomics, 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), Macroeconomics; Theory and Policy Macmillan Publishing Co. New York.  
Bhargava, R.N. (1971), The Theory and working of Union Finance in India Chaitanya Publishing House, Allahabad  
Gupta, S.B.(1994).

**FOURTH SEMESTER  
PUBLIC ADMINISTRATION  
BHARTIYA PARSHASHAN-II  
PAPER CODE: BA4005-IVOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

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-Ayukta.

**Suggested Books:**

- B.L. Fadia & K. Fadia, Indian Administration, Sahitya Bhawan Publication, Agra, 2017.
- Abrar, R., Indian Public Administration, Wisdom Press, New Delhi, 2016.
- Ahmed, Nazim Uddin, Advanced Study of Indian Administration, The Readers Paradise, New Delhi, 2013. Goyal, Vijay Kumar and B.K. Garg, Rural Development Administration, New Delhi: Alfa Publications, 2013.
- Gupta, Jawahar Lal, Indian Administration: Evolution & Development, Wisdom Press, New Delhi, 2013.
- R.K. Arora, Indian Public Administration: Institutions and Issues, New Age International Publishers, New Delhi, 2012 (3rd edition).
- Jha, Rajesh K., Public Administration in India, Pearson Publication, Delhi, 2012.
- Sharma, P.D. & Sharma, B.M., Indian Administration: Retrospect and Prospect, Rawat Publication, Jaipur, 2009.
- Prasad, Kamala, Indian Administration, Politics, Policies and Prospects, New Delhi, Pearson Longman, 2006.
- Chaubey, P.K., Urban Local Bodies in India: Governance with Self-Reliance, New Delhi, IIPA, 2004.
- Dhalimal, S.S., Good Governance in Local Self Government, New Delhi, Deep & Deep, 2004.
- Jain, R.B., Public Administration in India: 21 Century Challenges for Good Governance, New Delhi, Deep & Deep, 2002.
- Maheshwari, S.R., Indian Administration, New Delhi, Orient Longman, 2000.
- Mehta, Vinod, Reforming Administration in India, New Delhi, Har-Anand, 2000.
- Ministry of Personnel Public Grievances and Pension, Annual Reports on Administration, Govt. of India. Kumar, Amnia & Anitha L. Financing of Urban Local Government, Jaipur, Printwell, 1995.
- Mishra, B.B., Government and Bureaucracy in India (1947-1976), New Delhi, OUP, 1986.

**FOURTH SEMESTER  
POLITICAL SCIENCE  
BHARTIYA SARKAR AND RAJNITI - II  
PAPER CODE: BA4006-IVOM**

**Time: 3 Hrs**

**Marks: 80**

**Note:** Examiner will be required to set NINE questions in all, four in part 'A' and four in Part 'B'. In part C, Question No. 9 is compulsory, consisting of 8 objective type questions of 2 marks each spread over the entire syllabus. In addition to question no. 9, candidate will be required to attempt 4 more questions, selecting two questions each from part 'A' and 'B'.

**Part-A**

Union Government: President, Parliament, Cabinet and Prime Minister.

**Part-B**

The Election Commission Electoral Reforms. Major issues in Indian Political, Caste, religion. Language Region, Poverty- Alleviation.

**Part-C**

Eight Object type questions (multiple choice) spread over the entire 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 and Politics, Delhi University, Directorate of Hindi Implementation, 1990.  
A. Kohli, Democracy and Discontent: India's Growing Crisis of Governability, 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.

**FOURTH SEMESTER  
MATHAMETICS  
Paper Code : BA4007-IVOM  
Advanced Calculus – II**

**Time : 3 Hrs.**

**Marks: 27**

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **seven** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

**Section – I**

Jacobians. Maxima, minima and saddle points of functions of two variables. Lagrange's multiplier method. 1x5=5

**Section – II**

Envelopes, Evolutes. Indeterminate forms. 1x5=5

**Section – III**

Beta and Gamma functions. Double and triple integrals. 1x5=5

**Section – IV**

Dirichlets' integrals. Change of order of integration in double integrals. 1x5=5

**Section – V**

1x7=7

**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.



## Partial Differential Equations - II

Time : 3 Hrs.

Marks: 27

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **seven** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

### Section – I

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. 1x5=5

### Section – II

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. 1x5=5

### Section – III

Curves with torsion, principal normal, osculating circle, binomial, Serret-Frenet formulae. 1x5=5

### Section – IV

Locus of centre of curvature, spherical curvature, surfaces, envelopes, edge of regression, fundamental magnitudes of the first order. 1x5=5

### Section – V

1x7=7

### 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. Lipsechutz, 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, Schaum's Outline Series, Tata McGraw Hill, New Delhi.

## Mechanics - II

Time : 3 Hrs.

Marks: 26

**Note:** The question paper will consist of **five** sections. Each of the first four sections (**I-IV**) will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **six** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

### Section – I

Velocities and accelerations along radial and transverse directions and along tangential and normal directions. Simple harmonic motion. 1x5=5

### Section – II

Elastic strings. Motion on smooth and rough plane curves Motion in a resisting medium. Motion of particles of varying mass. 1x5=5

### Section – III

Central Orbits, Kepler's laws of motion. 1x5=5

### Section – IV

Motion of a particle in three dimensions. Acceleration in terms of different coordinate systems 1x5=5

### Section – V

1x6=6

### 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

(चतुर्थ सेमेस्टर)  
**SANSKRIT**  
संस्कृत - IV  
**PAPER CODE: BA4008-IVOM**

Time: 3Hrs

Marks: 80

**Unit-I संस्कृत व्याकरणम्**

अंक 40

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

**Unit-II लघु सिद्धांत कौमुदी**

अंक 24

प्रत्याहार सूत्र तथा संज्ञा प्रकरण: (सोदाहरण सूत्र व्याख्या)

**Unit-III अनुवाद:**

अंक 16

हिन्दी से संस्कृत में सरल अनुवाद

दिशा निर्देश—

- Unit I:** (क) चौदह में से आठ के समास अथवा विग्रह 8x1=8  
(ख) आठ में से चार वाक्यों में वाच्य परिवर्तन 4x2=8  
(ग) चौदह में से आठ में प्रकृतिच प्रत्यय प्रदर्शन 8x1=8  
(घ) चौदह में से आठ में प्रकृति प्रत्यय प्रदर्शन 8x1=8  
(ङ) चौदह में से आठ में प्रकृति प्रत्यय प्रदर्शन 8x1=8
- Unit II:** दस में से किन्हीं छः सूत्रों की व्याख्या 6x4=24
- Unit III:** चौदह में से आठ वाक्यों का संस्कृत में अनुवाद 8x2=16

**FIFTH SEMESTER**  
**ENGLISH**  
**English-V**  
**PAPER CODE: BA5001-VOM**

**Time: 3 Hrs.**

**Maximum Marks: 80**

**Prescribed Book: *Raja Rao : Kanthapura***

**Question 1.** Explanation with Reference to the Context: Students will be required to attempt any one passage (with internal choice) from *Kanthapura*. 10 Marks

**Question 2** Students will be required to answer any five questions out of given eight in about 50 words each from *Kanthapura*. 3x5=15 Marks

**Question 3.** Essay type Question: Students will be required to answer any two out of four questions in about 300 words from *Kanthapura*. 7 ½ x 2= 15Marks

**Question 4.** This will be a 'Do as Directed' type question based on the following items: 10x4=40 Marks

- a) Vocabulary – Synonyms, Antonyms  
(Students will be required to answer any ten questions out of given twelve)
- b) Correction of incorrect sentences  
(Students will be required to answer any ten questions out of given twelve)
- c) One Word Substitution  
(Students will be required to answer any ten questions out of given twelve)
- d) Idioms and Phrases  
(Students will be required to answer any ten questions out of given twelve)

**FIFTH SEMESTER**  
**HINDI**  
हिन्दी—V  
**Paper Code 5002-VOM**

**Time 3 Hrs.**

**Marks 80**

पाठ्य पुस्तक :-

हरियाणवी लोकधारा : सम्पादक डा. मीरा गौतम, प्रोफेसर, हिन्दी विभाग, कुरुक्षेत्र विश्वविद्यालय, कुरुक्षेत्र ।

- |                     |                    |                      |                          |
|---------------------|--------------------|----------------------|--------------------------|
| 1. गरीबदास          | 2. नितानंद         | 3. बाजे भगत          | 4. लखमीचंद               |
| 5. मांगे राम        | 6. साधूराम         | 7. बस्तीराम          | 8. फौजी मेहर चंद         |
| 9. तारादत्त विलक्षण | 10. जयनारायण कौशिक | 11. जगदीशचन्द्र वत्स | 12. भारतभूषण सांघीवाला । |

नोट :-

1. कवि परिचय, व्याख्या एवं प्रश्न लिखे गए कवियों में से पूछे जाएंगे। गद्य भाग में से आसा की किरण (हरियाणवी कहानी) सांझ और (हरियाणवी नाटक) तथा स्वर्ण जयन्ती (हरियाणवी एकांकी) पाठ्यक्रम में रखे गए हैं ।
2. गद्य भाग में से केवल आलोचनात्मक प्रश्न पूछे जाएंगे ।

निर्देश :-

1. हरियाणवी जनपदीय भाषा और साहित्य पर आधारित कवियों में से व्याख्या के लिए आठ अवतरण पूछे जाएंगे। परीक्षार्थियों को इनमें से चार व्याख्या करनी होगी। प्रत्येक व्याख्या 6 अंकों की होगी।  
**अंक 4 X 6 = 24**
2. निर्दिष्ट कवियों में से किन्ही चार कवियों का साहित्यिक परिचय पूछा जाएगा। परीक्षार्थियों को इनमें से किसी दो का परिचय देना होगा। यह प्रश्न 8 अंकों का होगा ।  
**अंक 2 X 8 = 16**
3. निर्धारित कवियों की अनुशीलनी में दिए गए प्रश्नों में से आठ प्रश्न पूछे जाएंगे। परीक्षार्थियों को इनमें से किन्ही चार का उत्तर देना होगा। प्रत्येक प्रश्न 6 अंकों का होगा ।  
**अंक 4 X 6 = 24**
4. गद्य भाग में से पूछे गए चार आलोचनात्मक प्रश्नों में से कोई दो प्रश्न करने होंगे। यह प्रश्न आठ अंकों का होगा।  
**अंक 2 X 8 = 16**

**FIFTH SEMESTER**  
**HISTORY**  
**HISTORY OF MODERN WORLD**  
**(16<sup>th</sup> Century to Second World War-I)**  
**PAPER CODE: BA5003-VOM**

**Time: 3 Hrs**

**Marks: 80**

**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 eight questions. In addition to Question no. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 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.

**Section II**

1. Scientific Revolutions: Agricultural Revolution; Industrial Revolution.
2. Glorious Revolution (1688)
3. American Revolution (1776)
4. European exploitation of Asia and Africa.

**Section III**

**Maps**

1. On an outline map of Europe show the countries which with Agriculture Revolution during the 16<sup>th</sup>- 19<sup>th</sup> centuries.
2. On an outline map of Europe show the countries which with Industrial Revolution during the 16<sup>th</sup>- 19<sup>th</sup> centuries.

**Section IV**

Objective type Short Answer Questions:

**FIFTH SEMESTER  
ECONOMICS  
DEVELOPMENT & ENVIRONMENTAL ECONOMICS  
PAPER CODE: BA5004-VOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions selecting one from each unit from the remaining eight questions each carrying 16 marks.

**Unit I**

**Economic growth and development:** Factors affecting Economic Growth, Measuring Development: Income measures, PQLI and HDI

**Unit II**

**Development Approaches to Development:** Vicious circle of poverty, Lewis Dual Economy Model, Balanced vs. unbalanced growth theories, Leibenstein's critical minimum effort thesis

**Unit III**

**Introduction to Environmental Economics:** 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

**Unit IV**

**Environmental legislation:** Importance of environmental legislation in India, Concept of Sustainable development

**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, Noretton, 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

**FIFTH SEMESTER  
PUBLIC ADMINISTRATION  
LOCAL GOVERNMENT AND ADMINISTRATION IN INDIA- I  
Paper Code 5005-VOM**

**Time 3 Hrs.**

**Marks 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

**Local Government:** Meaning and Significance, Evolution of Local Government in India since 1882, 74<sup>th</sup> Constitutional Amendment Act, 1992.

**Municipalities:** Composition, functions, finances, personnel, General Working of Municipal bodies with special reference to Haryana and Punjab State, State Government's control over Municipal bodies.

State Department and Directorate of Municipal Bodies, its organization and functions. Role of the Ministry of Urban Development as well as Central Council of Local Self Govt. in regard to municipalities.

**Municipal Corporation:** Compositions, functions and finances, Town and Metropolitan planning in India, District Administration: its features, purposes, problems.

**Recommended Books:**

U.B. Singh, Urban Administration in India, New Delhi: Serials, 2004

K.K. Puri, Local Self Governments, Jalandhar: Bharat Prakashan, Latest Edition

PSN Rao, Urban Governance and Management, New Delhi: Kanishka, 2006.

S.R. Maheshwari, Local Self Govt. in India, Agra: Lakshmi Narain, Latest Edition



**FIFTH SEMESTER  
POLITICAL SCIENCE  
COMPARATIVE GOVERNEMENT AND POLITICS-I  
Paper Code: BA5006-VOM**

**Time: 3Hrs**

**Marks: 80**

**Note:** Examiner will be required to set NINE questions in all, four in part 'A' and four in part 'B'. In part C, Question 9 is Compulsory, consisting of 8 objective type questions of 2 marks each spread over the entire syllabus. In addition to question no.9, candidate will be required to attempt 4 more questions, selecting two questions each from part 'A' and 'B'.

**Part A**

Approaches to the study of comparative Politics.  
Constitution and constitutionalism

**Part B**

Political Parties and Party Systems  
Interest Groups and Pressure Groups

**Part C**

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

**Readings**

1. G.A. Almond and J.S. Coleman, The Politics of the Developing Areas, Princeton NJ, Princeton University Press, 1960.
2. G.A. Almond, and S. Verba, The Civic Culture : Political Attitudes and Democracy in Five Nations, Princeton NJ, Princeton University Press, 1963.
3. L.J.Cantori and A.H. Zeigler (ed.), Comparative Politics in the Post Behaviouralist Era, London, Lynne Reinner Publisher, 1988.
4. O. Dunleavy and B.O' Leary, Theories of Liberal Democratic State, London, Macmillan, 1987.
5. R. Hauge and M. Harrop, Comparative Government and Politics. An Introduction, 5th edn., New York, Palgrave, 1001.
6. H. Finer, Theory and Practice of Modern Government, London, Methuen, 1969.
7. J.C. Johari, Comparative Political Theory: New Dimensions, Basic Concepts and Major Trends, New Delhi, Sterling, 1987.
8. K. Kumar, Revolution : The Theory and Practice of a European Idea, London, Weidenfeld and Nicolson, 1971.
9. R.C. Macridis, The Study of Comparative Government, New York, Doubleday, 1955.
10. R.C. Macridis and R.E. Ward, Modern Political Systems : Europe, and Asia, 2nd edn. Englewood Cliffs NJ, Prentice Hall, 1968.
11. J. Manor (ed.), Rethinking Third World Politics, London, Longman, 1991.
12. R.C. Macridis, Modern European Governments : Cases in Comparative Policy - Making, Englewood Cliffs NJ, Prentice Hall, 1968.
13. L.W. Pey (ed.), Communication and Political Development, Princeton NJ, Princeton University Press, 1963.

**FIFTH SEMESTER  
MATHEMATICS  
Paper Code 5007-VOM  
REAL ANALYSIS - I**

**Time: 3 Hrs.**

**Marks: 27**

**Note:** The question paper will consist of five sections. Each of the first four sections (I-IV) will contain two questions and the students shall be asked to attempt one question from each section. Section-V will contain seven short answer type questions without any internal choice covering the entire syllabus and shall be compulsory.

**Section - I**

Riemann integral Integrability of continuous and monotonic functions. The fundamental theorem of integral calculus, Mean value theorems of integral calculus. 1x5=5

**Section - II**

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. 1x5=5

**Section- III**

Improper integrals and their convergence. Comparison tests. Abel's and Dirichlet's tests. Frullani's integral. 1x5=5

**Section-IV**

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. 1x5=5

**Section-V**

1x7=7

**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.
- Mursaleem-Elements of Metric Spaces, Anamaya Publications, 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.
- Lipschitz Set Theory and Related Topics, Schaum, Outline Series. Tata McGraw Hill, New Delhi.

## GROUPS AND RINGS

**Time: 3Hrs**

**Marks: 27**

**Note:** The question paper will consist of five sections. Each of the first four sections (I-IV) will contain two questions and the students shall be asked to attempt one question from each section. Section– V will contain seven short answer type questions without any internal choice covering the entire syllabus and shall be compulsory.

### Section I

Group-Automorphisms, inner automorphism, Automorphism groups and their computations.

1x5=5

### Section II

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.

1x5=5

### Section III

Ring theory-Ring homomorphism, Ideals and Quotient Rings. Field of Quotients of an Integral Domain. Euclidean Rings.

1x5=5

### Section IV

Polynomial, Rings. Polynomials over the Rational Field. The Eisenstein Criterion. Polynomial Rings over Commutative Rings. Unique factorization domain. Unique factorization domain implies so is  $R[x_1, x_2, \dots, x_n]$ .

1x5=5

### Section V

1x7=7

### 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, 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,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.

## PROGRAMMING IN C (Theory)

**Time: 3 Hrs.**

**Marks: 26**

**Note:** The question paper will consist of five sections. Each of the first four sections (I-IV) will contain two questions and the students shall be asked to attempt one question from each section. Section – V will contain six short answer type questions without any internal choice covering the entire syllabus and shall be compulsory.

### Section I

Programmer's model of a computer, Algorithms Flow Charts, Data Types. Arithmetic and input/output instructions.

1x5=5

### Section II

Decisions control structures. Decision statements. Functions. Recursions Preprocessor.

1x5=5

### Section III

Arrays Puppeting of string.

1x5=5

### Section IV

Structures, Pointers, File formatting.

1x5=5

### Section V

1x6=6

### Books Recommended

1. B.W. Kernighan and D.M. Ritchie, The C Programming Language, 2<sup>nd</sup> Edition
2. V. Rajaraman, Programming in C, Prentice Hall in India, 1994.
3. Byron S. Gottfried, Theory and Problems of Programming with C, Tata McGraw-Hill, Publishing Co. Ltd. 1998.

**(पंचम सेमेस्टर)**  
**SANSKRIT**  
**संस्कृत – V**  
**PAPER CODE: BA5008-VOM**

**Time: 3Hrs**

**Marks: 80**

**Unit-I संस्कृत वाग्व्यवहार**

अंक 16

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 48

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

**Unit-III निबन्धञ्च**

अंक 16

सरल विषयों पर सरल संस्कृत में निबन्ध

दिशा निर्देशः—

**Unit I:** चौदह में से किन्हीं आठ प्रश्नों के संस्कृत में उत्तर

8x2=16

**Unit II:** (क) आठ में से पांच श्लोकों की व्याख्या

4x6=24

(ख) चार में से दो सूक्ति की व्याख्या

2x8=16

(ग) चरित्र चित्रण अथवा अंक सार (दो में से कोई एक)

1x8=8

**Unit III:** चार में से एक विषय पर संस्कृत में निबन्ध लेखन

1x16=16

**SIXTH SEMESTER  
ENGLISH  
English-VI  
PAPER CODE: BA6001-VIOM**

**Time: 3 Hrs.**

**Maximum Marks: 80**

**Prescribed Book: *William Shakespeare: The Merchant of Venice.***

- Question 1.** a) Explanation with Reference to the Context: Students will be required to attempt any one passage (with internal choice) from *Merchant of Venice*. 10 Marks
- b) Students will be required to answer any five questions out of given eight in about 50 words each from *Merchant of Venice*. 4x5=20 Marks
- Question 2.** Essay type Question: Students will be required to answer any two out of four questions in about 300 words from *Merchant of Venice*. 10 x 2= 20 Marks
- Question 3.** Precis : Students will be required to make a précis of a passage of about 300 words. 10 Marks
- Question 4.** Letter Writing: Business/Official/letters to the Editors. Students will be required to attempt any one of given two. 10 Marks
- Question 5.** Comprehension of an unseen passage : Students will be required to give answers to the questions that follow a passage. 10 Marks

**SIXTH SEMESTER**  
**HINDI**  
हिन्दी—VI  
**Paper Code 6002-VIOM**

Time 3 Hrs.

Marks 80

**पाठ्य पुस्तक विषय**

1. प्रयोजन मूलक हिंदी और काव्यांग — डा. नरेश मिश्र अभिनव प्रकाशन, नई सड़क, दिल्ली ।
2. हिन्दी साहित्य का इतिहास (आदि काल और मध्य काल)

**निर्देश :-**

1. प्रयोजन मूलक हिन्दी और काव्यांग पर आधारित पाठ्य-पुस्तक से चार प्रश्न पूछे जाएंगे, इनमें से परीक्षार्थियों को दो प्रश्नों के उत्तर देने होंगे। प्रत्येक प्रश्न 12 अंकों का होगा।

**अंक 2 X 12 = 24**

2. हिन्दी साहित्य का इतिहास (आदिकाल और मध्यकाल) से चार प्रश्न पूछे जाएंगे इनमें से किन्हीं दो प्रश्नों के उत्तर देने होंगे। प्रत्येक प्रश्न 12 अंकों का होगा ।

**अंक 2 X 12 = 24**

3. हिन्दी साहित्य का इतिहास (आदिकाल-मध्यकाल) और प्रयोजनमूलक हिन्दी पाठ्यपुस्तक दोनों में से 5-5 लघूत्तरी प्रश्न पूछे जाएंगे, इनमें से किन्हीं पाँच प्रश्नों के लगभग 250-250 शब्दों में उत्तर देने होंगे। प्रत्येक प्रश्न 4 अंकों का होगा ।

**अंक 5 X 4 = 20**

4. काव्यांग से दो रसों के और अलंकारों के सोदाहरण लक्षण पूछे जाएंगे। इनमें से एक रस और एक अलंकार का लक्षण सोदाहरण लिखना होगा। जिसके लिए 6 अंक निर्धारित है तथा पूरा प्रश्न 12 अंकों का होगा ।

**अंक 2 X 6 = 12**

**SIXTH SEMESTER  
HISTORY  
HISTORY OF TWENTIETH CENTURY WORLD  
PAPER CODE: BA6003-VIOM**

**Marks: 80**

**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 eight questions. In addition to Question no. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

**Section I**

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.

**Section I**

1. Japan's Modernization and Rise as a World Power.
2. First World War and Peace Settlements.
3. Russian Revolution (1817): Causes and Impact.
4. Emergence of USA as a World Power.
5. Economic depression, Emergence of Nazism and Fascism.
6. Second World War: Its causes and results.

**Section III**

**Maps**

1. Europe on the eve of French Revolution.
2. Unification of Italy.
3. Unification of Germany.

**Section IV**

Objective type Short Answer Questions:



**SIXTH SEMESTER  
ECONOMICS  
INTERNATIONAL ECONOMICS  
PAPER CODE: BA6004-VIOM**

**Time: 3Hrs**

**Marks: 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions selecting one from each unit from the remaining eight questions each carrying 16 marks.

**Unit I**

**Balance of Payments:** Meaning of balance of payments equilibrium; Causes and effect of BOP disequilibrium and corrective measures

**Unit II**

**Foreign trade multiplier:** Concept, Working and Limitations

**Unit III**

**Role of International Organisations:** Functions of IMF, World Bank and WTO

**Unit IV**

**Foreign Trade:** Changes in the composition and direction of foreign trade of India since 1991, Causes of persistent deficit in India's BOP and corrective measures.

**Reading List :**

1. Kindleberger, C.P. (1973), International Economy R.B. Irwin Homewood.
2. Sawyer, W. Charles and Richard L. Sprinkle (2009), International Economics, Third Edition
3. Krugman, Paul, Maurice Obstfeld and Marc Melitz (2018), International Economics Theory and Policy, Pearson Education, 10<sup>th</sup> Edition
4. Rana, K.C. and K.N. Verma (2014), International Economics, Vishal Publishing Co.

**SIXTH SEMESTER  
PUBLIC ADMINISTRATION  
LOCAL GOVERNMENT AND ADMINISTRATION IN INDIA- II  
Paper Code 6005-VIOM**

**Time 3 Hrs.**

**Marks 80**

**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 eight questions. In addition to Q.No. 1, candidate will be required to attempt four more questions from the remaining eight questions each carrying 16 marks.

**Rural Local Government:** Zila Parishad, Panchayat Samiti and Panchayat: Their composition, functions, finances, Personnel, State Government's control over their working, 73<sup>rd</sup> Constitutional Amendment Act, 1992.

Role of State and Union Government in regard to Panchayati Rural Institutions in policy, Assistance training and general control problems Rural – Urban relationship, Role of Political Parties in Panchayati Raj.

**Divisional Commissioner:** His role and position, State Head Quarter's control over District Administration.

**Deputy Commissioner:** His role and position in the context of planning and development at District Level.

**Recommended Books:**

- S.R. Maheshwari, Local Government in India, New Delhi: Origin Longman, 1984.
- S.N. Mishra, New Horizons in Rural Development Administration, New Delhi: Mittal, 1989.
- Sahib Singh and Swinder Singh, Local Government in India, Jalandhar: New Academic Publication, 1992.
- Mohinder Singh, Rural Development in India, Current Perspectives, New Delhi: Intellectual Publication, 1992.
- Vasant Desai, Fundamentals of Rural Development; A Systems Approach, New Delhi: Himalayia Publication, 1991.
- M. Aslam, Panchayati Raj in India, New Delhi: NBT, 2007.

**SIXTH SEMESTER  
POLITICAL SCIENCE  
COMPARATIVE GOVERNEMENT AND POLITICS-II  
Paper Code: BA6006-VIOM**

**Time: 3Hrs**

**Marks: 80**

Note: Examiner will be required to set NINE questions in all, four in part 'A' and four in part 'B'. In part C, Question 9 is Compulsory, consisting of 8 objective type questions of 2 marks each spread over the entire syllabus. In addition to question no.9, candidate will be required to attempt 4 more questions, selecting two questions each from part 'A' and 'B'.

**Part A**

Constitution structures: Executives, Legislature and Judiciary  
Political Culture.

**Part B**

State and Local Government  
Socio-Economic bases of the Constitution  
Women and the Political Process

**Part C**

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

**Readings**

1. G.A. Almond and J.S. Coleman, The Politics of the Developing Areas, Princeton NJ, Princeton University Press, 1960.
2. G.A. Almond, and S. Verba, The Civic Culture : Political Attitudes and Democracy in Five Nations, Princeton NJ, Princeton University Press, 1963.
3. L.J.Cantori and A.H. Zeigler (ed.), Comparative Politics in the Post Behaviouralist Era, London, Lynne Reinner Publisher, 1988.
4. O. Dunleavy and B.O' Leary, Theories of Liberal Democratic State, London, Macmillan, 1987.
5. R. Hauge and M. Harrop, Comparative Government and Politics. An Introduction, 5th edn., New York, Palgrave, 1001.
6. H. Finer, Theory and Practice of Modern Government, London, Methuen, 1969.
7. J.C. Johari, Comparative Political Theory: New Dimensions, Basic Concepts and Major Trends, New Delhi, Sterling, 1987.
8. K. Kumar, Revolution : The Theory and Practice of a European Idea, London, Weidenfeld and Nicolson, 1971.
9. R.C. Macridis, The Study of Comparative Government, New York, Doubleday, 1955.
10. R.C. Macridis and R.E. Ward, Modern Political Systems : Europe, and Asia, 2nd edn. Englewood Cliffs NJ, Prentice Hall, 1968.
11. J. Manor (ed.), Rethinking Third World Politics, London, Longman, 1991.
12. R.C. Macridis, Modern European Governments : Cases in Comparative Policy - Making, Englewood Cliffs NJ, Prentice Hall, 1968.
13. L.W. Pey (ed.), Communication and Political Development, Princeton NJ, Princeton University Press, 1963.

**SIXTH SEMESTER  
MATHEMATICS  
Paper Code 6007-VIOM  
REAL ANALYSIS - II**

**Time: 3 Hrs.**

**Marks: 27**

**Note:** The question paper will consist of five sections. Each of the first four sections (I-IV) will contain two questions and the students shall be asked to attempt one question from each section. Section-V will contain seven short answer type questions without any internal choice covering the entire syllabus and shall be compulsory.

**Section - I**

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 1x5=5

**Section- II**

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. 1x5=5

**Section- III**

Separable, second countable and first countable spaces. Continuous functions. Extension theorem. Uniform continuity Isometry and homeomorphism Equivalent metrics. 1x5=5

**Section-IV**

Compactness. Sequential Compactness. Totally bounded spaces. Finite intersection property. Continuous functions and compact sets. Connectedness. components continuous function and connected sets. 1x5=5

**Section-V**

1x7=7

**Books Recommended**

1. E.T. Copson, Metric Spaces, Cambridge University Press, 1968.
2. G.F. Simmons, Introductions to Topology and Modern Analysis McGraw-Hill, 1963.
3. Babu Ram, Metric Spaces, Vinayaka Publishers, New Delhi.
4. Mursaleem-Elements of Metric Spaces, Anamaya Publications, New Delhi.
5. Jain, P.K. and Ahmad, K. Metric Spaces, Narosa Publishing -House, New Delhi.
6. Lipschitz Set Theory and Related Topics, Schaum, Outline Series. Tata McGraw Hill, New Delhi.

# Linear Algebra

Time: 3 Hrs.

Marks: 27

**Note:** The question paper will consist of five sections. Each of the first four sections (I-IV) will contain two questions and the students shall be asked to attempt one question from each section. Section – V will contain seven short answer type questions without any internal choice covering the entire syllabus and shall be compulsory.

## Section I

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.

1x5=5

## Section II

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.

1x5=5

## Section III

Modules, Sub modules, Quotient modules Homomorphism and Isomorphism theorems.

1x5=5

## 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.

1x5=5

## Section V

1x7=7

## Books Recommended

1. I.N. Herstein, Topics in Algebra, Wiley Eastern Ltd., New Delhi, 1975.
2. K. Hoffman and R. Kunze, Linear Algebra, 2nd Edition, Prentice Hall, Englewood Cliffs, New Jersey, 1971.
3. S.Kumaresan, Linear Algebra, A Geometric Approach, Prentice Hall of India, 2000.

## NUMERICAL ANALYSIS

**Time: 3 Hrs.**

**Marks: 26**

**Note:** The question paper will consist of five sections. Each of the first four sections (I-IV) will contain two questions and the students shall be asked to attempt one question from each section. Section – V will contain six short answer type questions without any internal choice covering the entire syllabus and shall be compulsory.

### Section I

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. 1x5=5

### Section II

Numerical Differentiation using Newton's Formulae and Neown's divided differences' Numerical  
Quadrature : Newton-Cote's formulas, Gauss Quadrature 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 1x5=5

### Section III

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. 1x5=5

### Section IV

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. 1x5=5

### Section V

1x6=6

### Books Recommended

1. C.E. Froberg, Introduction to Numerical Analysis, (Second Edition), Addison Wesley 1979.
2. Melvin, J Maron, Numerical Analysis A Practical Approach, Macmillan Publishing Co., Inc. New York, 1982.
3. M.K. Jain, S.R.K. Iyenger, R.K. Jain, Numerical Methods Problems and Solutions, New Age International (P) Ltd., 1996.
4. R.Y. Rubistein, Simulation and the Monte Carlo Methods, John Wiley, 1981.
5. Scheid, Theory and Problems of Numerical Analysis, Schaum Outline Series, Tata McGraw Hill, New Delhi.
6. Babu Ram, Numerical Methods: Pearson Publication.

(छठा सेमेस्टर)  
**SANSKRIT**  
संस्कृत – VI  
**PAPER CODE: BA6008 - VIOM**

**Time: 3Hrs**

**Marks: 80**

**Unit-I संस्कृत साहित्येतिहास :**

**अंक 32**

- (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-II लघु सिद्धांतकौमुदी**

**अंक 32**

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

**Unit-III अलंकार:**

**अंक 16**

अलंकार: अनुप्रास, श्लेश, यमक, उपमा, उत्प्रेक्षा, रूपक, अर्थान्तरन्यास,  
अतिशयोक्ति, विभावना, विशेषोक्ति

दिशा निर्देश:-

**Unit I: (क) चार में से दो प्रश्न**

**2x8=16**

(ख) आठ में से चार टिप्पणी

**4x4=16**

**Unit II: (क) i. आठ में से चार सूत्रों की व्याख्या**

**4x4=16**

ii. चार अशुद्ध प्रयोगों में से दो को शुद्ध करना

**2x4=8**

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

**1x8=8**

**Unit III: (क) आठ में से चार अलंकारों के लक्षण व उदाहरण**

**4x4=16**