

# SYLLABUS

FOR

## B.A. / B.Sc.

(12+3 SYSTEM OF EDUCATION)  
(SEMESTER-I)

Examinations: 2018–19



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**GURU NANAK DEV UNIVERSITY**  
**AMRITSAR**

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### Combination of Subjects for B.A./B.Sc.

#### Compulsory Subjects: Two

1. English (Compulsory)
2. Punjabi (Compulsory) / Basic Punjabi (ਮੁੱਢਲੀ ਪੰਜਾਬੀ)/ Punjab History & Culture

#### Elective Subjects: Three

(A candidate shall select three subjects in all selecting not more than one subject from any of the following sets of combinations) :-

#### Group Subjects:

1. English / Hindi / Punjabi / Sanskrit / Bangla / Urdu / Persian / Tamil / Assamese / French / Arabic / Russian / German.
2. Economics / Defence Studies / Sociology / Fine Arts / Education / Adult Education / History of Arts / Applied Arts / Sculpture / Human Rights.
3. History / Mathematics / Psychology / Ancient Indian History & Culture / Folk Arts and Culture/ Quantitative Techniques / Religious Studies.
4. Political Science / Indian Classical Dance / Stat. / App. Stat. / Commerce / Electronics.
5. Public Admn. / Home Science / Physical Education / Computer Science / Dramatic Arts.
6. Philosophy / Geography / Music Vocal / Music Inst. / Tabla / Rural Development / Agriculture Economics and Marketing / Industrial Economics/ Travel and Tourism.

#### Note:

1. The candidates shall be asked to offer both Hindi & Sanskrit as elective subjects from Group No. 1.
2. The candidates shall also be allowed to offer both Music (Vocal) & Music (Instrumental) as Elective Subjects from Group No. 6.
3. The combination of Home Science with Computer Science as Elective subject is allowed.
4. The blind candidates shall be allowed to offer any two elective subjects out of Music (Vocal), Music (Instrumental) and Tabla from Group No. 6.
5. The subject of Environmental Studies will be taught in 2nd year of all the undergraduate degree classes from the Session 2007-08. However, if a candidate fails to pass this paper in the 2nd year, two consecutive chances i.e. one supplementary and other along with 3rd year may be given to him/her. The marks obtained by the candidate in this paper will not be added to the total marks obtained, and the result will be entered as "Pass" in the DMC of the third year certificate if he/she obtains at least 35% marks in the paper.

6. The subject of “Drug Abuse: Problem, Management and Prevention” will be taught in I<sup>st</sup> year (I<sup>st</sup> and 2<sup>nd</sup> Semester) of all the undergraduate degree classes from the Session 2017–18. However, if a candidate fails to pass this paper in the I<sup>st</sup> year, two consecutive chances i.e. one supplementary and other along with 2<sup>nd</sup> year may be given to him/her. The marks obtained by the candidate in this paper will not be added to the total marks obtained, and the result will be entered as "Pass" in the DMC of the third year certificate if he/she obtains at least 35% marks in the paper.
7. The candidates shall also be allowed to offer both Music (Vocal) & Tabla as Elective Subjects from Group No. 6.
8. Change Name of Subject Commercial Art to Applied Arts vide Syndicate Para No. 91 Dated 16-06-2016.

## VOCATIONAL SUBJECTS

**Note: The candidate can choose one/two vocational subjects from the following groups, only one subject to be chosen from each group.**

### GROUP-I

Journalism & Mass Communication, Mass Communication & Video Production, Office Management & Secretarial Practices, Tax Procedure & Practices, Advertising Sales Promotion & Sales Management, Tourism & Hotel Management, Tourism & Travel Management, Still Photography & Audio Production, Gemology & Jewellery Design, Functional English, Functional Sanskrit, Functional Punjabi, Functional Hindi, Hindi Patrakarita.

### GROUP-II

Food Science & Quality Control, Early Childhood Care & Education, Fashion Designing & Garment Construction, Cosmetology, Clinical Nutrition & Dietetics, Industrial Microbiology, Biotechnology, Bioinformatics, Dairy Farming.

### GROUP-III

Computer Maintenance, Computer Applications, Refrigeration & Air Conditioning, Automobile Maintenance, Information Technology, Information Technology Specialization Software Development.

**Note: 1. The Subject of 'Human Genetics' may be offered as an elective subject in combination with any other Life Sciences subject, with English, Punjabi and Chemistry being compulsory subjects.**

**Note: 2. Tourism & Hotel Management should not be taken alongwith Tourism and Travel Management.**

**SEMESTER-I**  
**POLITICAL SCIENCE**

**PRINCIPLES OF POLITICAL SCIENCE**

**Time: 3 Hours**

**Max. Marks: 100**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Political Science: Meaning, Nature and Scope, Traditional & Modern View.
2. Relationship of Political Science with Economics, History, Sociology and Psychology.

**SECTION-B**

1. State: Definition, Elements and its distinction from Government and Society.
2. Theories of the Origin of State: Social Contract, Historical/Evolutionary and Marxian Theory.

**SECTION-C**

1. State: Liberal, Marxian and Gandhian Views of State.
2. Welfare State: Concept and Functions of Welfare State

**SECTION-D**

1. Sovereignty: Definition, Attributes and Types of Sovereignty.
2. Theories of Sovereignty: Monistic and Pluralistic.
3. Electorates and Electoral Systems.

**Recommended Books:-**

1. J. C. Johari, *Principles of Political Science*, Sterling Publishers, New Delhi.
2. S.P. Verma, *Political Theory*, Geetanjali Publishing House, New Delhi.
3. A.C. Kapur, *Principles of Political Science*, S. Chand & Company, New Delhi.
4. E. Asirvatham, *Political Theory*, S. Chand & Company, New Delhi.
5. M.P. Jain, *Political Theory*, Authors Guild Publication, Delhi, (Punjabi & Hindi).
6. David Easton, *The Political System*, Scientific Book Agency, Calcutta.
7. D.C. Bhattacharya, *Political Theory*, Vijay Publishing House, Calcutta.
8. O.P. Gauba, *An Introduction to Political Theory*, Macmillan Indian Ltd., New Delhi.
9. Satish Kumar Sharma, *Adhunik Rajnitik Vishleshan*, Publication Bureau, Punjabi University, Patiala.
10. Andrew Heywood, *An Introduction to Political Theory*, New Delhi, Palgrave Publications, 2004.
11. Aeon J. Skoble and Tibor R. Machan, *Political Philosophy*, 1st Edition, New Delhi, Pearson, 2007.
12. John Hoffman & Paul Graham, *Introduction to Political Theory*, Pearson, 2007.
13. Catriona Mckinnon, *Issues in Political Theory*, Oxford, 2009.
14. R.C Varmani, *Understanding Political Theory: Concepts and Issues*, Gitanjali, 2011.
15. Andrew Heywood, *Key Concepts in Politics*, Palgrave, 2011.
16. -----, *Politics*, Palgrave, 2013.
17. E Asirvatham & K.K Mishra, *Political Theory*, S. Chand, 2012.
18. N.D Arora, *Introduction to Political Theory*, Har-Anand, 2012
19. R.Bhargava, *Political Theory : An introduction*, Pearson, 2013
20. Anthony H.Birchi, *The concepts and Theories of Modern Democracy*, Routledge, 2013
21. Hoveyta Abbas & Ranajay Kumar, *Political Theory*, Pearson, 2012
22. S.P Verma, *Modern Political Theory*, Vikas, 2005.
23. David Heft, *Political Theory and the Modern State*, Worldview, 1998

**SEMESTER-I**

**HISTORY**

**HISTORY OF INDIA UPTO C. 1000**

**Time: 3 Hours**

**Max. Marks: 100**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. **Sources:** Meaning of the term 'ancient', Literary sources Vedic literature, Epics and Puranans, Buddhist and Jain texts, Sangam literature; Accounts of Indians and foreigners; Archeological Sources; Coins, Inscriptions and Monuments.
2. **The Indus Civilization:** Origin; Harappa and Mohenjodaro; Political organization; Town-planning and architecture; Agriculture, technology; Trade contacts with the outside world; Religion; Script, Seals and Figurines, Causes of disintegration.

**SECTION-B**

3. **The Indo Aryans:** Original home; Geographical area known to Vedic texts; Social Institutions: Family, Varna and the Caste system, Religious ideas and rituals; Economy; Political Organization—Changes in the later Vedic period; Emergence of the republics and kingdoms; Growth of towns.
4. **Jainism and Buddhism:** Social and political conditions; Doctrines of Jainism and sectarian development; Teachings of Gautam Buddha; The Sangha organization; Spread of Buddhism; its decline, Legacy of Buddhism and Jainism.

**SECTION-C**

5. **The Age of the Mauryas:** Establishment of the Mauryan Empire; Expansion of the empire; the Kalinga War; Polity and administration; Contacts with neighbouring states; Ashoka's Dhamma; Decline of the Mauryan empire.
6. **The Kushanas:** Kanishka and his successors; Mahayana Buddhism; Gandhara Art; Literature. **The Gupta Age:** Establishment of the Gupta Empire; its expansion under Samundragupta and Chandragupta-II; Administration; Revenue system; Trade and Commerce; Art and architecture; Literature and philosophy; Science and Technology. The Huna invasions and the decline of the Gupta Empire.

**SECTION-D**

7. **The Age of the Vardhanas:** Establishment of Vardhana kingdom; Harsha's campaigns and political relations; Sources of revenue; Patronage of religion, Literature and education.
8. **The Cholas:** Important centres of power in the South; Establishment of the Chola power; Extent of the Chola empire; Administration; Economy; Trade, Art and Architecture religion and Philosophy. **The Rajputs:** Origins; Polity and administration; Social and Religious life; Literature and art.

**Suggested Reading:-**

1. Basham, A.L., *Wonder that was India*, Fontana, London, 1977.
2. Jha, D.N., *Early India: Concise History of India*, Manohar Publication, 2010
3. Sharma, R.S., *India's Ancient Past*, Oxford University Press, New Delhi, 2005
4. Thapar, Romila, *Early India : From Origins to AD 1300*, Penguin publication, New Delhi, 2003.

**SEMESTER-I**

**DEFENCE AND STRATEGIC STUDIES**

**WAR AND ITS VARIOUS ASPECTS  
(THEORY)**

**Time: 3 Hours**

**Max. Marks: 100**  
**Theory Marks: 80**  
**Practical Marks: 20**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**Note:** *Practicals are only meant for the regular students. For the private students the paper shall be of 100 marks. For private students, each question will be of 20 marks.*

**SECTION-A**

- 1. War**
  - a) Nature, Concept and Definition
  - b) Origin of War
  - c) History of Warfare
    - i) Animal Warfare
    - ii) Primitive Warfare
    - iii) Historical Warfare
- 2. Modern Warfare**
  - i) Meaning and Definition.
  - ii) Features of Modern Warfare.
- 3. Principles of War**
  - a) Meaning and Importance.
  - b) Historical Development and Application.

**SECTION-B**

- 1. War as an Instrument of Policy**
- 2. Guerrilla Warfare**
  - i) Origin and Concept
  - ii) Principles, Techniques & Characteristics of Guerrilla Warfare.
  - iii) Counter Guerrilla Warfare.

### SECTION-C

#### 1. Psychological Warfare

- a) Definition and Concept
- b) Functions.
- c) Limitations

#### 2. Psychological Aspects of War

- a) Leadership
- b) Discipline
- c) Motivation
- d) Morale
- e) Fear and Panic.

### SECTION-D

#### 1. Nuclear Warfare

- i) Beginning of Nuclear era and effects of Nuclear explosion.
- ii) Nuclear weapons: Fission & fusion bombs.
- iii) Nuclear Strategies for Defence: (Preventive, Pre-emptive, Massive Retaliation and Flexible Response)
- iv) Missiles: Types and their Classification.

#### Books Recommended:

1. Boring, E. (1945) : Psychology for the Armed Forces.
2. Chandra, P. (2014) : International Politics, 2<sup>nd</sup> edition.
3. Clausewitz, C.V. (1873) : On War (translated by Col. J.J. Graham)
4. Copeland, N. (1942) : Psychology of a Soldier.
5. Encyclopedia Americana (Latest edition)
6. Encyclopedia Britannica (Latest edition)
7. Hasnain, Q. (1967) : Psychology for the Fighting Man, *Fauji Prati Mano-Vigyan* (Punjabi translation published by Punjabi University, Patiala)
8. Knapp, W. (1967) : A History of War and Peace: 1939-1965
9. Lineberger, Paul M.A. (1947) : Psychological Warfare.
10. Osanka, F.M. (1962) : Modern Guerrilla Warfare. 1941-1961
11. Palmer, N.D. & Perkins, H.C. (2001) : International Politics 3ed paperback edition
12. Patel, Satyavrata R. (1964) : A Text Book of International Law.
13. *Sampooran Singh*(1971) : India and the *Nuclear Bomb*
14. Sidhu, K.S. (1988) : War and its Principles.
15. Tripathi, K.S.(1970) : Evolution of Nuclear Strategy
16. Mao Tse-tung (1937) : On Guerrilla Warfare (translated by Samuel B. Griffith)
17. Wright, Quincy (1942) : A Study of War.
18. Palit, D.K. (1970) : Essentials of Military Knowledge  
*Sanik Gyan de Mul Niyam* (Punjabi translation published by Punjabi University Patiala)

**SEMESTER-I**

**DEFENCE AND STRATEGIC STUDIES  
(PRACTICAL)**

**Time: 3 Hrs.**

**Marks: 20**  
**Written: 10**  
**Discussion: 05**  
**Record & Viva: 05**

**Instructions for the Examiners:**

1. Examiners are required to set a question paper containing 10 marks of 1 hour duration in which he is supposed to set at least 3 questions of 5 marks each and students are required to attempt any two.
2. In the written practical Examination, choice in questions may be given to the students. The question paper is to be set at least half an hour before the examination.
3. Each student should be asked to deliver a talk/make short presentation for 5–10 minutes on any of the given topics.
4. Examiners should devote reasonable time for Viva–Voce Test and assess the practical record of a student.
5. For practical paper one group of Students will not comprise of more than 20 students at a time.

**A. WRITTEN TEST**

**Marks: 10**

**1. Map:**

- a) Definition and Features
- b) Classification and its utility for Military
- c) Enlargement and reduction of Maps

**2. Conventional Signs:** Military and Geographical

**3. GRID System:** Four Figure and Six figure Map References.

**B. TOPICS FOR DISCUSSION/PRESENTATION:**

**Marks: 05**

- a. Principles of War
- b. Military Leadership
- c. Guerrilla Warfare

**C. RECORD AND VIVA-VOCE**

**Marks: 05**

**SEMESTER-I**

**JOURNALISM AND MASS COMMUNICATION (VOCATIONAL)  
(THEORY)**

**Time: 3 Hours**

**Max. Marks: 100**  
**Theory Marks: 80**  
**Practical Marks: 20**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

- Communication- Definition, Meaning, Nature, Need, Process and Functions
- Types of Communication (Intrapersonal, Interpersonal, Group and Mass Communication)

**SECTION-B**

- 7C's of Communication, Barriers of Communication
- Verbal and Non-verbal communication
- Latest trend (Internet)
- Invasion of satellite channels

**SECTION-C**

- Models of Communication: Aristotle, Shannon and Weaver, Wilbur Schramm, Lasswell and Berlo, Osgood, Dance, Gatekeeping Model

**SECTION-D**

Theories of Communication: Hypodermic Needle Theory, Two-step and Multi step theory, Uses and Gratification Theory

**(PRACTICAL)**

**Marks: 20**

Training in Communication Skills Classroom Discussions and Seminars  
Making a Power point presentation and presenting it (Time limit 5 Minutes)

**Books Recommended:-**

1. Mass Communication in India Keval J. Kumar Jaico, Bombay.
2. Mass Communication, Uma Narula Harvard, N. Delhi.

**Theory & Practical Media**

Communication and Management C.S. Rayudu Himalaya

**SEMESTER-I**

**MASS COMMUNICATION & VIDEO PRODUCTION (VOCATIONAL)  
INTRODUCTION TO COMMUNICATION**

**Time: 3 Hours**

**Max. Marks: 100  
Theory Marks: 80  
Practical Marks: 20**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

- Communication- Definition, Meaning, Nature, Need, Process and Functions
- Types of Communication (Intrapersonal, Interpersonal, Group and Mass Communication)

**SECTION-B**

- 7C's of Communication, Barriers of Communication
- Verbal and Non-verbal communication
- Latest trend (Internet)
- Invasion of satellite channels

**SECTION-C**

- Models of Communication: Aristotle, Shannon and Weaver, Wilbur Schramm, Lasswell and Berlo, Osgood, Dance, Gatekeeping Model
- Traditional and Folk Media

**SECTION-D**

Theories of Communication: Hypodermic Needle Theory, Two-step and Multi step theory, Uses and Gratification Theory

**(PRACTICAL)**

**Marks: 20**

Training in communication skills, discussions & seminars.

Power Point Presentations in accordance with Syllabus.

Training in Communication Skills

Making a Power point presentation and presenting it (Time limit 5 Minutes)

Classroom Discussions and Seminars

**Books Recommended:-**

<b>Name</b>	<b>Author</b>	<b>Publisher</b>
1. Mass Communication	Kewal J. Kumar	Jaico, Bombay, in India. 2004
2. Mass Communication	Uma Narula	Haranand N. Delhi, Theory & Practice 1998

**Note: Practical to be conducted by external examiner**

**SEMESTER-I**

**PUBLIC ADMINISTRATION**

**ADMINISTRATIVE THEORY**

**Time: 3 Hours**

**Max. Marks: 100**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**Public Administration**– Meaning, nature and scope; Public Administration as an Art and a Science, Distinguish between Public Administration and Private Administration, Relationship of Public Administration with other social sciences – Political Science, Sociology, Economics, History, Psychology, Law. New Public Administration, New Public Management and Good Governance.

**SECTION-B**

**Organization**– Meaning, Formal and Informal Organisation. Basic Principles of Organisation– Hierarchy, Span of control, UNITY of Command; Centralization and Decentralization. Delegation, Coordination and Supervision.

**SECTION-C**

**Chief Executive**– Meaning, Types & Functions, Line and Staff Agencies, Department, Public–Corporation and Independent Regulatory Commission, Delegated Legislation, Administrative Tribunals.

**SECTION-D**

**Administrative Behaviour**– Leadership, Communication, Decision making, Executive, Legislative, Judicial and Citizens, Control over Administration.

**Suggested Readings:-**

1. Awasthi, Maheshwari S.R., Public Administration, Lakshmi Narain Aggarwal, Agra, 2004.
2. Basu Rumki, Public Administration: Concept and Theory, Sterling Publishers Pvt. Ltd., New Delhi, 1990.
3. Bhattacharya Mohit, Restructing Public Administration–Essays in Rehabilitation, IInd Edition, Jawahar Publishers and Distributors, New Delhi, 1999.
4. Kapoor Usha, Lok Prashashan–Sidhant Ate Vihar, Publication Bureau, Panjabi University, Patiala.
5. Puri K.K., Elements of Public Administration, (Punjabi). Bharat Prakashan, Jalandhar, 2004.
6. Sharma, M.P. and Sadana B.L., Public Administration, Kitab Mahal, Allahabad, 1993.
7. Sahib Singh and Swinder Singh, Public Administration: Theory and Practice, New Academic Publishers, Jalandhar, 1997.
8. White L.D., Introduction to the Study of Public Administration, Macmillan, New York, 1995.

**SEMESTER-I**

**SOCIOLOGY**  
**FUNDAMENTALS OF SOCIOLOGY-I**

**Time: 3 Hours**

**Max. Marks: 100**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

- a) **Sociology:** Meaning, Nature, Scope and Importance.
- b) **Sociology and Social Sciences:** Psychology, Economics, Political Science and History.

**SECTION-B**

- a) **Basic Concepts:** Society, Community, Institution and Association

**SECTION-C**

- a) **Social Groups:** Definition, Characteristics and Types– Primary & Secondary, In group and Out group, Reference Groups.

**SECTION-D**

- a) **Social Structure:** Definition, Elements, Norms and Values, Status and Roles.

**Recommended Readings:-**

1. Ahuja, Ram. 1993, *Indian Social System*. Jaipur: Rawat Publications.
2. Abraham, M. Francis. 2006, *Contemporary Sociology*. New Delhi: Oxford University.
3. Bottomore, T.B.S. 1972, *Sociology*, Punjabi Translation by Parkash Singh Jammu, Publication Bureau, Punjabi University, Patiala.
4. Davis, Kingsley. 1971, *Human Society*, Punjabi Translation by Parkash Singh Jammu, Publication Bureau, Punjabi University, Patiala.
5. Gisbert, Pascual. 1969, *Fundamentals of Sociology*. Bombay: Orient Longmans.
6. Jayaram, N. 1988, *Introductory Sociology*. Madras: Macmillan.
7. Johnson, H.M. 1995, *Sociology: A Systematic Introduction*. New Delhi: Allied Publishers.
8. Kapila, S. 1989, *A Text Book of Sociology, Part-I & II*. Jalandhar: New Academic House.
9. Kapila, S. 2001, *Fundamentals of Sociology*, Vol. I. Panchkula: Kapila Publishers.
10. Koenig, Samuel. *Sociology, An Introduction to the Science of Society*. Punjabi Translation by Baldev Singh, Publication Bureau, Punjabi University, Patiala.
11. Kaur, Swinderjit. 2014, *General Samaj Vigyan*. Jalandhar: New Academic Publishing.
12. Haralambos, Michael and Robin Heald. 2013, *Sociology: Themes and Perspectives*. New Delhi: Oxford University Press.
13. Macionis, John.J and Ken Plumer. 2014, *Sociology: A Global Introduction*. London: Pearson.

**SEMESTER-I****WOMEN EMPOWERMENT****WOMEN AND SOCIETY: AN OVERVIEW****Time: 3 Hrs.****Max. Marks: 100****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A****Gender and Feminism**

1. Gender, gender equality and patriarchy.
2. Feminism and Struggle for women's equality throughout the world: West and Asia.

**SECTION-B****Status of Women: Historical Perspective**

1. **Status and Position of Women in History:** Women in Ancient, Vedic and Post Vedic period.
2. Status of women in pre-independence period and Social Reforms before and after independence.

**SECTION-C****Women, Society and Human Rights**

1. Universal Declaration of Human Rights and Women Rights.
2. Gender issue and Indian Constitution.
3. **Struggles for Gender Equality:** Society, reforms and laws in India.

**SECTION-D****Status of Women in Punjab**

1. **Status of women in Punjab:** History with particular reference to Sikh Scriptures.
2. **Status of women in Punjab:** Contemporary Issues.

### SEMESTER-I

## Drug Abuse: Problem, Management and Prevention

### PROBLEM OF DRUG ABUSE

**Time: 3 Hours**

**Max. Marks: 50**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### SECTION-A

**Meaning of Drug Abuse:**

Meaning, Nature and Extent of Drug Abuse in India and Punjab.

#### SECTION-B

**Consequences of Drug Abuse for:**

Individual:	Education, Employment, Income.
Family :	Violence.
Society :	Crime.
Nation :	Law and Order problem.

#### SECTION-C

**Management of Drug Abuse:**

Medical Management: Medication for treatment and to reduce withdrawal effects.

#### SECTION-D

Psychiatric Management: Counselling, Behavioural and Cognitive therapy.

Social Management: Family, Group therapy and Environmental Intervention.

**References:-**

1. Ahuja, Ram (2003), *Social Problems in India*, Rawat Publication, Jaipur.
2. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.
3. Inciardi, J.A. 1981. *The Drug Crime Connection*. Beverly Hills: Sage Publications.
4. Kapoor. T. (1985) *Drug epidemic among Indian Youth*, New Delhi: Mittal Pub.
5. Kessel, Neil and Henry Walton. 1982, *Alcoholism. Harmond Worth*: Penguin Books.
6. Modi, Ishwar and Modi, Shalini (1997) *Drugs: Addiction and Prevention*, Jaipur: Rawat Publication.
7. National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.
8. Ross Coomber and Others. 2013, *Key Concept in Drugs and Society*. New Delhi: Sage Publications.
9. Sain, Bhim 1991, *Drug Addiction Alcoholism, Smoking obscenity* New Delhi: Mittal Publications.
10. Sandhu, Ranvinder Singh, 2009, *Drug Addiction in Punjab: A Sociological Study*. Amritsar: Guru Nanak Dev University.
11. Singh, Chandra Paul 2000. *Alcohol and Dependence among Industrial Workers*: Delhi: Shipra.
12. Sussman, S and Ames, S.L. (2008). *Drug Abuse: Concepts, Prevention and Cessation*, Cambridge University Press.
13. Verma, P.S. 2017, "*Punjab's Drug Problem: Contours and Characteristics*", Economic and Political Weekly, Vol. LII, No. 3, P.P. 40-43.
14. World Drug Report 2016, United Nations office of Drug and Crime.
15. World Drug Report 2017, United Nations office of Drug and Crime.

## SEMESTER-I

### PSYCHOLOGY

#### BASIC PSYCHOLOGICAL PROCESSES-I

**Time: 3 Hours**

**Pass Marks: 35% of the subject**  
(Theory and Practical Separately)

**Max. Marks: 100**

**Theory Marks: 75**  
**Practical Marks: 25**

#### Instructions for the Paper Setters:-

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### SECTION-A

**Nature:** Psychology as a Science, Historical background of Psychology with brief Introduction to Schools (Structuralism, Functionalism, Psychoanalysis, Behaviourism, Gestalt and Humanistic)

#### SECTION-B

**Methods:** Introspection, Observation, Experiment, Case Study, Interview and Questionnaire

**Understanding Individual Differences:** Nature and Uses of Psychological Tests, Characteristics of Good Psychological Tests, Types of Psychological Tests (Verbal vs Non-verbal Tests, Individual vs Group Tests, Speed vs Power Tests, Paper and Pencil vs Performance Tests, Essay vs Objective Type Tests), Ethical Issues in Psychological Testing

#### SECTION-C

**Learning:** Introduction to Learning, Nature and Characteristics of Learning Processes, Trial and Error Learning & Insight Learning, A brief Introduction to the Concepts of Classical and Instrumental Conditioning (Paradigm and Typical Experiments), Social/ Observational learning

#### SECTION-D

**Intelligence:** Concept and Nature, Intelligence Theories (Spearman and Thurstone), Cognitive Theories (Gardner and Sternberg), Concept of Emotional Intelligence, Nature and Nurture Issue in Intelligence

**Measures of Central Tendency:** Meaning and Characteristics of good Measure of Central Tendency, Measures of Central Tendency: Arithmetic Mean, Median, Mode with their Merits and Demerits

#### References:-

1. Benjamin, Jr. L.T., Hopkins, J.R. & Nation, J.R. (1987). *Psychology*. Mcmillan Publishing Company, New York.
2. Chaplin, J.R. & Kraiwic, T.S. (1985). *Systems and Theories of Psychology*. Holt, Rinehart and Winston, Inc., New York.
3. Crooks, R.L. & Strin, J. (1988). *Psychology; Sciences: Behaviour and Life*. Holt Rinehart and Winston, Inc., New York.
4. Morgan, G.T., King, P.A., Weisz, T.R. & Schopler, J. (1999). *Introduction to Psychology*. McGraw Hill Book Co., New York.
5. Baron, R.A. (1996). *Psychology*. New Delhi: Prentice Hall of India.
6. Carlson N.R. (2007). *Foundation of Physiological Psychology*. Pearson Education, New Delhi.
7. Aron (2007). *Statistics for Psychology*. Pearson Education, New Delhi.

**SEMESTER-I**

**PSYCHOLOGY  
(PRACTICAL)**

**Marks: 25**

**Instructions for the Practical Examination:-**

Students are supposed to perform five practicals out of 6 mentioned in the syllabus. Practical examination will be of 3 hours duration. External examiner will conduct the practical examination. The students will perform one practical in the exam carrying 25 marks. Evaluation of the practical would be done on the basis of write-up of file book (5 Marks), performance and viva-voce (20 Marks) relating to the practicals. In case students have not completed 5 practicals, the examiner will deduct marks at the rate of 5 for each left practical out of total evaluation of the student. No reappear will be allowed in the practical examination. Fail in the practical will be considered fail overall in the subject.

**Five Practical have to be performed out of the following:**

1. Simple Reaction Time/Observations
2. Verbal Test of Intelligence.
3. Nonverbal Test of Intelligence.
4. Performance Test of Intelligence
5. Trial and Error Learning.
6. Effect of Practice on Learning.

**SEMESTER-I****GEOGRAPHY****PHYSICAL GEOGRAPHY-I: GEOMORPHOLOGY  
(THEORY)****Time: 3 Hours****Max. Marks: 100****Theory Marks: 70****Practical Marks: 30****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**Note: Stencil outline maps are allowed**

**Objective:** The objective of this paper is to introduce the basic concepts in the physical geography, essentially geomorphology to the students of geography in a brief but adequate manner.

**SECTION-A**

**Geography:** Definition, place of physical geography within the discipline of geography, division of physical geography-geomorphology, climatology, oceanography. Theories of the Origin of the Earth: Kant, Laplace and Jeans & Jeffreys.

**Interior of the Earth:** Constitution, structure and composition, continental drift (with special reference to Wegener's theory and Plate Tectonics).

**SECTION-B**

**Movements of the Earth:** Orogenic, epirogenic movements

**Landforms resulting from forces of compression and tension:** folding and faulting

**Earthquakes and Volcanoes** (causes, types and distribution)

**SECTION-C**

**Rocks:** Their origin, classification and characteristics.

**Major Landforms:** Mountains, plateaus and plains in the world.

**Geomorphic Agents:** Geomorphic processes (weathering and erosion).

### SECTION-D

**Geomorphological Landscapes:** Fluvial, glacial, aeolian, coastal, Karst.

**Applied Geomorphology:** Applications to transport, landuse, earthquake disaster and its management.

#### Books Recommended:-

1. Chawla, I.N.: *Bhautik Bhugol (in Punjabi)*, Bharat Prakashan, Jalandhar.
2. Dayal, P.: *A Text Book of Geomorphology*, **Rajesh Publications New Delhi, 2007.**
3. Dury, G.H.: *The Face of the Earth Penguin*, Middlesex, England, **1977.**
4. Gass, I.G.: *Understanding the Earth*, The Artemrs Press, Sussex, 1973.
5. Holmes Arthur: *Principles of Physical Geology*, Thomas Nelson & Sons, Ltd., New York, Latest Edition, **1993.**
6. Kale, V. and Gupta A.: *Elements of Geomorphology*, Oxford University Press, Calcutta, 2001.
7. Kaur Dhian: *The Earth*, Edited by R.C. Chandna, Kalyani Publishers, Ludhiana, Delhi, 2000.
8. Nizamuddin: *An Introduction to Physical Geography*, Concept, New Delhi, **2002.**
9. Mamoria, C.P. and Niati, J.L.: *Bhautik Bhugol Ke Tatwa (in Hindi)* Agra, 1976.
10. Monkhouse, F.J.: *Principles of Physical Geography*, Orient Longman, New Delhi, Latest Edition, **1975.**
11. R.N. Tikha: *Physical Geography*, New Academic Publishing Co., Jalandhar.
12. Singh, Pritam & Bhatia S., *Bhautik Bhugol De Adhaar*, Punjabi University Publication, Patiala.
13. Singh, Savinder: *Physical Geography*, **Pravalika Publications, Allahabad, 2015.**
14. Sparks, B.W.: *Geomorphology*, Longman, London, 1986.
15. Strahler, A.N. & Strahler A.H.: *Modern Physical Geography*, John Wiley, New York, 1992.
16. Thornbury, W.D.: *Principles of Geomorphology*, Second Edition, Wiley Eastern Ltd., New Delhi, 1993.
17. Singh Malkiat: *Principles of Physical Geography*, Rasmeet Parkashan, Jalandhar, **2005, Reprint 2015.**

**SEMESTER-I**

**GEOGRAPHY**

**CARTOGRAPHY-I  
(PRACTICAL)**

**Time: 3 Hours**

**Max. Marks: 30**

**Written Paper of 3 Hours: 15 Marks**

**Practical Record (File): 08 Marks**

**Viva: 07 Marks**

**Objective:**

Geography is an amalgam of physical as well as social sciences and as such it is necessary for the students to go through laboratory exercises, particularly to show directions and bearings and different methods of representing relief. The concept of scale is to be understood in the initial stage and also different methods of representing relief.

**SECTION-A**

**Maps and Scale:** History of Cartography and types of maps, Scales: types of scales, methods of construction of graphic scales—plain scales, diagonal scales and comparative scales—different units, time scales.

**SECTION-B**

**Representation of Relief:** Spot heights, Trigonometrical stations, Bench Marks, form Lines, Contours, Hachures, Hill-shading and Layer tints.

**Note:**

1. A compulsory question containing 10 short answer type questions will be set covering the whole syllabus. The students will attempt 6 short answer type questions in about 25–30 words each. Each short answer type question will carry ½ mark (Total 3 marks).
2. The whole syllabus will be divided into 2 UNITS. Eight questions will be set out of the whole syllabus, four from each UNIT. The students will be required to attempt two questions from each UNIT. Each question will carry 3 marks. These will be in addition to the compulsory question at serial number 1. (Total 12 marks)
3. Evaluation of Practical record will be done at the time of viva-voce examination. A minimum of 12 sheets are to be prepared by the students in each semester.
4. In case the candidate has applied for the improvement, he/she should be required to make a fresh practical note book.
5. For practical classes, the number of students in one group shall not exceed fifteen.

**Recommended Books:-**

**Essential Readings:-**

1. Khullar, D.R.: *Essentials of Practical Geography*, New Academic Publishing Co., Mai Hiran Gate, Jalandhar, **2016**.
2. Singh, Gopal: *Mapwork and Practical Geography*, Vikas Publishing House, Pvt. Ltd., New Delhi, 1995.
3. Singh L.R. & Singh, Raghunandan: *Mapwork and Practical Geography*, Central Book Depot, Allahabad, 1993.
4. Phyllis Dink: *Mapwork*, Atma Ram & Sons, **1991**.

**Further Readings:-**

1. Mishra, R.P. & Ramesh, A.: *Fundamental of Cartography*, Concept Publishing Co., New Delhi, 1989.
2. Monkhouse, F.J. & Wilkinson, H.R.: *Maps and Diagrams*, Methuen & Co., London, Third Edition, 1976.
3. Robinson, A.H. & Randall, D. Sale: *Elements of Cartography*, John Wiley & Sons, New York, (Sixth Edition), 1995.

**SEMESTER-I**

**Punjab History & Culture (From Earliest Times to C 320)**  
(Special Paper in lieu of Punjabi compulsory)  
(For those students who are not domicile of Punjab)

**Time: 3 Hours**

**Max. Marks: 50**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Physical features of the Punjab and impact on history.
2. Sources of the ancient history of Punjab

**SECTION-B**

3. Harappan Civilization: Town planning; social, economic and religious life of the India Valley People.
4. The Indo-Aryans: Original home and settlement in Punjab.

**SECTION-C**

5. Social, Religious and Economic life during later *Rig* Vedic Age.
6. Social, Religious and Economic life during later Vedic Age.

**SECTION-D**

7. Teaching and impact of Buddhism
8. Jainism in the Punjab

**Suggested Readings:-**

1. L. Joshi (ed): *History and Culture of the Punjab*, Art-I, Patiala, 1989 (3<sup>rd</sup> edition)
2. L.M. Joshi and Fauja Singh (ed); *History of Punjab*, Vol.I, Patiala 1977.
3. Budha Parkash: *Glimpses of Ancient Punjab*, Patiala, 1983.
4. B.N. Sharma: *Life in Northern India*, Delhi. 1966.

## SEMESTER-I

## ECONOMICS

### MICROECONOMICS

**Time: 3 Hours**

**Max. Marks: 100**

#### **Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### **SECTION-A**

**Introductory:** Definition of Economics, Adam Smith, Marshall, Robbins, Nature and Scope of Microeconomics. Basic Concepts: Human wants, Utility and Satisfaction, Basic Economic Problems.

Demand Function; Supply Function, Price Determination, Slope and Elasticity (Concepts), Elasticity of Demand – Price, Income and Cross. Measurement of price elasticity of demand. Utility Analysis, Indifference Curve Analysis and Revealed Preference Analysis (Meaning and Equilibrium).

#### **SECTION-B**

**Theory of Production and Costs:** Concept of Production Function. Laws of Returns to Scale and Law of Variable Proportions.

**Cost:** Traditional and Modern Costs Theory, Concepts and Costs curves in the short and in the long run. Revenue Curves and their relationship with elasticity of demand.

#### **SECTION-C**

**Market forms:** Perfect Competition; Assumptions, Price and output determination of firm and Industry in Short run and Long run; Monopoly: Assumptions, Equilibrium. Monopolistic Competition: Assumptions, Product differentiation, Selling costs, Excess capacity.

#### **SECTION-D**

Marginal Productivity Theory; Factor Pricing (with reference to labour) under Perfect Competition and Imperfect Competition, Modern Theory of Distribution.

**Rent:** Concept; Ricardian Theory and Modern Theory of Rent.

**Interest:** Concept of interest; classical theory, loanable funds theory.

**Profit:** Concept of profit; Risk and uncertainty theories.

#### **Recommended Texts:**

1. R.G. Lipsey: Introduction to positive economics, EL BS, London, 1969.
2. Stonier & Hague: A Text book of Economics Theory, 9th ed., ELBS, London, 1973.
3. Paul Samuelson: Economics, Mcgraw Hill, Kogakushad, Tokyo, 1973.
4. N.C. Ray: Microeconomic Theory, Macmillan, Delhi, 1975.
5. D. Salvatore: Microeconomics.
6. Koutsoyiannis: Modern microeconomics.

**SEMESTER-I****QUANTITATIVE TECHNIQUES-I****Time: 3 Hours****Max. Marks: 100****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**Solution of Linear Equations:** Solution of Simultaneous Linear Equations (upto two variable case), Application of Linear Equation in Economics; Solution of Quadratic Equations. Series: Arithmetic Progression Series, Geometric Progression Series and their applications in economics.

**SECTION-B**

**Elements of Analytical Geometry:** Straight line; Basic concepts of trigonometry(with formulae); Concepts of combination and permutation, Elements of set theory, union, intersection, difference, symmetric difference, complementation, Venn diagrams.

**SECTION-C**

Difference between a constant and a variable, concept of functions, classifications of functions, graph of linear and quadratic functions (Economic applications). Limits and continuity of a function. Concept of differentiation (ab-intio principle).

**SECTION-D**

**Derivatives (Excluding Trigonometric and Inverse Functions):** Rules of derivatives; functions of functions rule; derivatives of implicit functions, parametric functions, exponential functions, logarithmic functions (Application in Economics).

**Books Recommended:-**

1. Monga, G.S.: Mathematics and Statistics for Economics.
2. Yamane, Taro: Mathematics for Economists.
3. Allen, R.G.D.: Mathematical Analysis for Economists.
4. Edward T Dowling: Introduction to Mathematical Economics.

## SEMESTER-I

### INDUSTRIAL ECONOMICS

#### INDUSTRIAL ECONOMICS-I

**Time: 3 Hours**

**Max. Marks: 100**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### SECTION-A

Nature, scope and subject matter of Industrial Economics; concept and organization of the firm; optimum firm.

#### SECTION-B

**Market Structure:** Meaning and measurement: Sellers' concentration and product differentiation; Market structure, firm size and profitability.

**Market Conduct:** Product pricing – Theory and evidence; merger and diversification.

#### SECTION-C

**Market Performance:** Growth of the firm and its constraints; size, growth and profitability.

#### SECTION-D

**Process of Industrialization:** Rationale, objectives, strategies and policies with reference to Indian industrial development and policy.

**Recommended Texts:**

1. Barthwal, R.R.: Industrial Economics: An Introductory Text, Wiley Eastern Limited, New Delhi, 1984.
2. Devine, P.J. et al: An Introduction to Industrial Economics, George Allen Unwin Ltd., London, 1976.
3. Hay, D.A. and D.J. Morris: Industrial Economics: Theory and Evidence, Oxford University Press, London, 1979.
4. Harndeen, J.B.: Economics of Corporate Economy.
5. Writes, P.J.D.: Price, Cost and Output.
6. Kirkpatrick, C.M. et al.: Industrial Structure and Policy in Less Developed Countries, N.Lee and F.L. Ninson, Heritage, New Delhi, 1985.
7. Kelkar, V.L. and V.V. Bhanoji Rao: Indian Development Policy Imperatives.

## SEMESTER-I

### AGRICULTURAL ECONOMICS & MARKETING

#### AGRICULTURAL ECONOMICS-I

**Time: 3 Hours**

**Max. Marks: 100**

#### **Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### **SECTION-A**

**Agriculture in a Growing Economy:** changing importance of agriculture, inter-dependence between agriculture and industry; role of agriculture in economic development.

#### **SECTION-B**

**Farming Systems:** traditional, subsistence, commercial, cooperative, collective and state farming, corporate farming, contract farming.

#### **SECTION-C**

**Economics of Agricultural Production:** Relation between factor-product, product-product and factor-factor, farm size productivity in Indian Agriculture.

#### **SECTION-D**

**Agricultural Growth in India:** Inter-regional variations in growth in output and productivity. Performance of Punjab Agriculture: cropping pattern, mechanization and problems in agriculture.

#### **Suggested Readings:-**

1. Southworth, N, and A. Johnston (1967), Agricultural Development and Economic Growth, Cornell University Press.
2. Dantwala, M.L. (1986), Agricultural Growth in India, Indian Society of Agricultural Economics, Bombay.
3. Bhardwaj, K. (1984), Production Conditions in India Agriculture, Cambridge University Press.
4. Memoria, C.B. (1985), Agricultural Problems of India, Kitab Mahal.
5. Eichher, C. and L. Wilt (ed.) (1964), Agriculture in Economic Development, McGraw Hill, London.
6. S.S. Johl & T.R. Kapur, Fundamentals of Farm Business Management.
7. A.S. Kahlon & Karam Singh, Principles of Farm Business Management.
8. Agriculture Economics by R.K. Lekhi and Joginder Singh, Kalyani Publishers 1996.

**SEMESTER-I****RURAL DEVELOPMENT-I****Time: 3 Hours****Max. Marks: 100****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Conceptual: Sociology as a study of social groups, Relationships, Institutions and culture, Rural urban differences.

**SECTION-B**

Caste, its features, functions, theories of its origin and intercaste relations.

**SECTION-C**

Family types, functions and changing patterns. Marriage, its forms, functions and features like bride/ bridegroom price, extravagance etc.

**SECTION-D**

Political structures; structures and functions of traditional and enacted panachayats.

**Suggested Readings:-**

1. Hutton, J.H. Caste in India, OxfordUniversity Press, Bombay.
2. Mandelbaum, D.G. Society in India, Popular Prakashan, Bombay.
3. Jammu, P.S. (Ed). Pendu Punjab Vich Samajik Parvartan, PunjabiUniversity, Patiala.
4. Swinderjit Kaur. Samaj Vigyan Nal Jan Pachhan, PunjabiUniversity, Patiala.
5. Baldev Singh (tr.) Samaj Vigyan, Punjabi Univeristy, Patiala.

**SEMESTER-I**  
**OFFICE MANAGEMENT AND SECRETARIAL PRACTICES COMPUTER APPLICATIONS-I**  
**(THEORY)**

**Time: 3 hours**

**Total Marks: 100**

**Theory: 60**

**Practical: 40**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**World of Computers:** Characteristics of Computers, Evolution and Generation of Computers, Hardware and Software Components, Operating System: types, functions and characteristics. Examples: Windows etc., Networking basics and Internet Concepts.

**SECTION-B**

**Advanced Concepts of Networks and Internet:** Keywords: URL, IP address, Hyperlinks, Web pages, Home page, web sites, WWW, Dial-up, Broadband, Dedicated, ISP, Browser, DSL, DNS, Gateways, Chat rooms, Downloading and Uploading, Wifi. Working with Microsoft Internet Explorer: Opening a web page, opening multiple browser windows, opening multiple tabs in a single browser windows and their management, working offline, deleting temporary files, exploring Internet Options. Net Etiquettes, Searching the Web: Meaning of Search Engines, Keywords,

**SECTION-C**

**Database Management System (DBMS):** Meaning and need of a database, Advantages, Limitations of databases, Applications of Database, Meaning and need of DBMS, Database Components: Tables, Rows, Columns, Attributes, Queries, Record, Primary Key, Foreign Key, Relationship between tables.

**SECTION-D**

**Word Processing:** Meaning of Word Processor, Need and Uses of Word Processing, Advantages and Limitations of Word Processing, Software used for Word Processing, Why MS-Word and which version? Starting Word: MS- Word interface, opening a blank document, hiding and showing toolbars, templates. Working in Word: selecting text, editing text, finding and replacing text, formatting text, checking and correcting spellings, Justification and Alignment, Bullets and Numbering, Tabs, Paragraph formatting, Indent, Page Formatting, Header and Footer & Word Count. Working with a Document: Page Setup of a document, viewing a document, switching between documents, saving a document, print preview, printing a document. Finishing Touch to a document: Inserting date and time, Special effects such as Bold, Scripts, etc., Inserting and deleting a comment, Inserting Clip Arts.

**Note:-** The relevant short cut keys of MS Word to be discussed.

**Suggested Readings:-**

- 1) Absolute Beginner's Guide to Computer Basics, Michael Miller.
- 2) Fundamental of Computers, Akash Saxena, Kratika Gupta.
- 3) Fundamentals of Information Technology, Alexis and Mathew.
- 4) Computer Fundamentals, P.K. Sinha.
- 5) Principles of Typewriting, D.P. Bhatia and S.S. Sangal.

**(PRACTICAL)**

**Marks: 40**

**Key Board Operations:**

1. Practicing second row, third row, first row and fourth row.
2. Practicing words, sentences, paragraphs and passages.
3. Use of shift keys and other non-character keys.
4. Use of special symbols of the Key Board and punctuation marks.

**Speed Building:**

1. Different kinds of drills for typing.
2. Graded speed test leading to accurate speed of about 30 w.p.m.
3. Typing of passages each containing 300 words in ten minutes.

**Display Techniques:**

1. Centering – Horizontal and Vertical.
2. Ensuring proper margins, line spacing.
3. Typing different types of heading including spaced heading.

**Letter Typing:**

1. Typing exercises of personal, official and business letters in different styles with proper display.
2. Typing of applications for jobs.
3. Addressing the envelopes.

**SEMESTER-I**  
**TRAVEL & TOURISM**  
**FUNDAMENTALS OF TRAVEL AND TOURISM**

**Time: 3 Hrs.**

**Max. Marks: 100**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**Conceptual Framework of Tourism**

- Travelers, excursionist, tourists/visitors.
- Tourism and tourist – domestic and international.
- The dynamics of definitions.

**Tourism Product and its Characteristics**

- Tourism through the ages.
- Tourism as a product
- Characteristics of tourism

**SECTION-B**

**The Construct of Tourism**

- Notion of Travel in historical imagination
- Types and forms of tourism
- Motivations for tourism.

**Objects of Tourism**

- Tourism as an object of pleasure–Scenic beauty, health and leisure.
- Tourism as a preserver of heritage–Historical and religious sites.
- Tourism as an object of culture–Holiday seasons,
- Tourism as a social habit.
- Tourism as a means of globalization–Theme of integration and identity.

**SECTION-C**

**Issues and Problems**

- Infrastructure and super–structure, Levels of Study.

**Global;** International concerns, problems and organizations–WTO, IATA and ICAO

**Macro:** National concerns and problems and organizations–Ministry of Tourism and ITDC.

**Meso:** Local concerns and problems.

**Micro:** Enterprise level concerns and problems.

**SECTION-D**

**Positive Effects of Tourism**

- Integrational
- Nation building – appreciation of language, dress, food and Customs.
- Information flows – travelogues.
- Removal of barriers – flow of goods.

**Negative Effects of Tourism**

- Conflicts – cultural shock.
- Ecological degradation.
- Dangers to protected archaeological sites
- Interference in wildlife habitat
- Social effects on the residents of tourist places

**Suggested Readings:-**

1. Burkart, A.J. & Medlik, S.: *Tourism: Past, Present and Future*, Heinemann Professional Publishing, London, 1986 reprint.
2. Mill, Robert and Christie & Morrison Alastair M.: *The Tourism Systems: An Introductory Text*, Prentice–Hall International, London, 1992.
3. Holloway, Christopher – J.: *The Business of Tourism*, Pitman Publishing, London, 1989.
4. Kamra, Krishan, K & Chand, Mohinder: *Basics of Tourism: Theory Operation and Practice*, Kanishka Publishers, New Delhi, 2002.
5. Bhatia, A.K.: *Tourism Development: Principles and Practices*, Sterling, New Delhi, 1995.
6. Foster, Douglas, *Travel and Tourism Management*, Macmillan, 1985.
7. *IITTM Growth of Modern Tourism – Monograph*, IITTM, New Delhi, 1989.
8. *IITTM Tourism as an Industry*, IITTM, New Delhi, 1989.
9. Wahab, S.E., *Tourism Management*, Tourism International Press, London, 1986.
10. Gupta I.C., *Tourism Products of India*, Indore, 1995. Kasbekar Sushma.
11. Singh, Ratandeeep *Tourist India: Hospitalities Services*, Kanishka, New Delhi, 1996.

**SEMESTER-I**

**TOURISM AND HOTEL MANAGEMENT  
(VOCATIONAL)**

**Time: 3 Hours**

**Max. Marks: 100**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**Evolution of Hospitality Industry in India and Abroad:** Accommodation and its types, Star categorization of Hotels

**Front Office:** Layout of front office and their importance i.e. reservation, reception, concierge, bell desk, lobby, telephone, cashier; Qualities of front office staff; Department front office coordinates with; Main functions of front office- Information, Reservation, Reception.

**SECTION-B**

**House Keeping:** Introduction, Layout of housekeeping department, Organisation of housekeeping department, Job description and qualities of house keeping staff, Departments that house keeping coordinates with, Rooms and floors-Practices and procedures.

Briefing and scheduling of staff, Knowledge of rooms, Rules on a guest floor, Cleaning of rooms, Preparing a room report, Housekeeping control desk

**SECTION-C**

**Food and Beverages Production:** Definition of 'food technology, Aims and objectives of cooking food, Cooking materials/ingredients, Methods of cooking foods, Spices used in Indian and western cooking, Principles of food storage, Planning of meals, Preservation of food.

**SECTION-D**

**Food and Beverage Service:** History of Indian catering, Food and beverage outlets, Classification of catering operations, Restaurant organization, Service staff behaviour and standards.

Table layout and table manners, Rules for waiting at table, Forms/types of catering establishments i.e Commercial (non residential & residential), Welfare (industrial/institutional), Transport (Air, Road, Rail, Sea); Origin of menu and menu planning objectives and types of menu

**Note:-**

One tour/summer training is compulsory every year of which the students shall prepare "A Tour Report", This report shall be evaluated by the examiner and shall given grades A, B & C.

**C. Training: One Month**

During the summer vacation one month training is a must.

**SEMESTER-I**

**TOURISM AND TRAVEL MANAGEMENT (VOCATIONAL)**

**TOURISM BUSINESS**

**Time: 3 Hours**

**Max. Marks: 100**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**Note:- The candidates are allowed to use simple (Non-Scientific) Calculators.**

**SECTION-A**

Definition, Nature, Characteristics, Importance and Components of tourism, Prospects of Tourism.

**SECTION-B**

Insulation, organization both national and international in world in promotion & development WTO, IATA, PATA, TAAI.

**SECTION-C**

Typology of Tourism; Concepts of Domestic And International Tourism recent trends, Motivation in tourism, Barriers to the growth of tourism

**SECTION-D**

Tourism as an industry, visitor, tourist, excursionist. Growth and development of Tourism in India. Impacts of Tourism-Economic, Social, Physical and Environmental.

**Suggested Readings:-**

1. Christopher J. Holloway: The Business of Tourism: McDonald and Evans, 1983.
2. A.K. Bhatia: Tourism Development, Principles and Practices: Sterling Published (P) Ltd., New Delhi, 1983.
3. Anand, M.M.: Tourism and Hotel Industry in India; Sterling Published (P) Ltd., New Delhi, 1990.
4. Kaul, R.H.: Dynamics of Tourism; A Terminology; Sterling Published (P) Ltd., New Delhi, 1996.
5. IITTM Growth of Modern Tourism, Monograph IITTM, New Delhi, 1989.
6. IITTM: Tourism as an Industry Monograph IITTM, New Delhi, 1989.
7. Burkart & Madlik Tourism – Past, Present and Future, Heinemann, London, 1974
8. Wahab, S.E.: Tourism Management: Tourism International Press, London, 1986.
9. Brymer, Robert A: Introduction to Hotel and Restaurant Management: Hub Publication, Co., I/OWA, 1984.
10. Riccline J.R. Brent: Travel and Tourism Hospitality, Research, London, 1982.
11. Surinder Aggarwal: Travel Agency Management Communication India, 1983.

**SEMESTER-I****TAX PROCEDURES & PRACTICES (VOCATIONAL)  
INCOME TAX LAW-I****Time: 3 Hours****Max Marks: 100****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Introduction to Income Tax Act, 1961: Important terms and Definitions; Determination of Residential Status, Exempted Incomes. (Section 10, 11 to 13A)

**SECTION-B**

Heads of Income- Income from Salaries, Income from House Property.

**SECTION-C**

Income from Profits & Gains from Business and Profession, Deduction under section 80 (except those applicable to corporate assessee) Depreciation.

**SECTION-D**

Income from Capital Gains & Income from other sources, Clubbing of Income and Set – off and carry forward of losses, aggregation of income;  
Deductions from Gross, Total Income under Chapter VIA.

**Suggested Readings:-**

1. Datey, V.S., "*Indirect Tax Law & Practice*", 2008, Taxmann Publications Pvt. Ltd. New Delhi
2. Mehrota, H.C., "*Indirect Taxes Law and Practice*", 2009, Sahitya Bhawan Publications, Agra
3. Ahuja, G. and Gupta,R., "*Systematic Approach to Income Tax*", 2011, Bharat Law House Pvt. Ltd., New Delhi
4. Singhania, V.K. and Singhania,M., "*Students' Guide to Income Tax*", 2013, Taxmann Publication Pvt. Ltd, New Delhi.
5. Ahuja, G. and Gupta, R., "*Simplified Approach to Corporate Tax Planning and Management*", 2012, Bharat Law House Pvt. Ltd., New Delhi.

**SEMESTER-I**

**ADVERTISING SALES PROMOTION AND SALES MANAGEMENT  
(VOCATIONAL)**

**MARKETING COMMUNICATION**

**Time: 3 Hours**

**Max. Marks: 100**

**Periods/week: L     T**  
**3     3**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**OBJECTIVES:**

This course is intended to impart knowledge and develop skill among the participants in the field of marketing communication, so as to equip them to man junior and lower-middle level positions in the fast-growing and challenging business areas of advertising, sales promotion, selling and sales management and Public relations. The course shall consist of six papers, two each of the three years of under graduate programme in the Indian Universities and other institutions. The six papers are:

1. Marketing Communication.
2. Advertising-I
3. Advertising-II
4. Personal Selling and Salesmanship.
5. Management of the Sales-Force.
6. Sales Promotion and Public relations.

All the papers will be handle so as to have practical orientation, with Indian cases and examples.

**COURSE CONTENTS:**

**SECTION-A**

Nature and importance of Communication, Communication process: Elements of the communication Process,

**SECTION-B**

Application of communication process in marketing. Steps in developing effective marketing communication, Methods of Marketing communication.

**SECTION-C**

Advertising, personal selling, Public relations, sales promotion, their meaning and distinctive characteristics; Setting up of targets: Policies, strategies and methods of achievements.

**SECTION-D**

Integrated Communication in Marketing.

**Suggested Readings:-**

1. Kotler Phillip, Kevn Lane Ketter, Abrahan Koshy and Mithileshwari Jha, Marketing Management, PHI, 13th ed., 2007.
2. Etzel, Michael J., Bruce J. Walker, William J. Stantonard Ajay Pandit. Marketing Concepts Cases, 13th edition, Tata, McGraw Hill, 2006.
3. Rampal, M.K. and S.L. Gupta, Cases & Simulations is Marketing Management, Galgotia Publishing Co., 2000.

**SEMESTER-I****COMMERCE****COMMERCE THEORY AND FUNCTIONAL MANAGEMENT****Time: 3 Hours****Max. Marks: 100****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**The candidates are allowed to use simple (Non-Scientific) calculators.**

**SECTION-A**

A critical evaluation of various definitions of Commerce, Commerce Art or Science or both, Commerce as a Profession, Relationship and Difference between Economics, Commerce and Management,

**Functions of Commerce:** Traditional and Modern.

**Management:** Definition, purpose and significance. Management Art or Science for both.

**SECTION-B**

**Management as a Process:** Planning, Organising, Staffing, Direction and Control and their meaning, Features and principles.

**Contributions to Management thought** with special reference to Taylor, Fayel, Elton Mayo.

**Personnel Management:** Meaning and significance, Managerial and operative Functions—Recruitment, Selection and training. Methods of wage payment, absenteeism and labour turnover, Job evaluation and merit rating, Trade Unionism, worker's participation in management.

**SECTION-C**

**Marketing Management:** Concept of Marketing, functions of marketing research—meaning and, Techniques, advertising and salesmanship.

**SECTION-D**

**Production:** Functions, production, planning and control, purchasing and storekeeping, inventory Control, quality control.

**Finance:** Meaning and importance, sources of finance.

**Suggested Readings:**

1. Bose Chandra, "Principles of Management and Administration", Prentice Hall of India, 2007.
2. Massie, "Essentials of Management", Fourth Edition, Prentice Hall of India, 2007.
3. Robbins and Coulter, "Management", 8th Edition, Prentice Hall of India, 2007.
4. Dholakia Nikhilesh and Khurana Rakesh, "Marketing Management", McMillan India Ltd., 2007.
5. Hitt, "Management", Pearson Education, 2007.

**SEMESTER-I****MATHEMATICS  
PAPER-I: ALGEBRA****Time: 3 Hours****Marks: 50****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Linear independence of row and column vectors. Row rank, Column rank of a matrix, Equivalence of column and row ranks, Nullity of matrix, Applications of matrices to a system of linear (both homogeneous and non-homogeneous) equations. Theorems on consistency of a system of linear equations.

**SECTION-B**

Eigen values, Eigen vectors, minimal and the characteristic equation of a matrix. Cayley Hamilton theorem and its use in finding inverse of a matrix. Quadratic Forms, quadratic form as a product of matrices. The set of quadratic forms over a field.

**SECTION-C**

Congruence of quadratic forms and matrices. Congruent transformations of matrices. Elementary congruent transformations. Congruent reduction of a symmetric matrix. Matrix Congruence of skew-symmetric matrices. Reduction in the real field. Classification of real quadratic forms in variables. Definite, semi-definite and indefinite real quadratic forms. Characteristic properties of definite, semi-definite and indefinite forms.

**SECTION-D**

Relations between the roots and coefficients of general polynomial equation in one variable. Transformation of equations and symmetric function of roots, Descarte's rule of signs, Newton's Method of divisors, Solution of cubic equations by Cardon method, Solution of biquadratic equations by Descarte's and Ferrari's Methods.

**Books Recommended:-**

1. K.B. Dutta: Matrix and Linear Algebra, Prentice Hall of India Pvt. Ltd., New Delhi (2002).
2. H.S. Hall and S.R. Knight: Higher Algebra, H.M. Publications, 1994.
3. Chandrika Parsad: Text book on Algebra and Theory of Equations, Pothishala Pvt. Ltd., Allahabad.
4. S.L. Loney: Plane Trigonometry Part-II, Macmillan and Company, London.
5. Shanti Narayan and P.K. Mittal: Text Book of Matrices.

**SEMESTER-I****MATHEMATICS****PAPER-II: CALCULUS AND TRIGONOMETRY****Time: 3 Hours****Marks: 50****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Real number system and its properties, lub, glb of sets of real numbers, limit of a function, Basic properties of limits, Continuous functions and classification of discontinuities, Uniform continuities.

**SECTION-B**

Differentiation of hyperbolic functions, Successive differentiation, Leibnitz theorem, Taylor's and Maclaurin's theorem with various forms of remainders, Indeterminate forms.

**SECTION-C**

De-Moivre's Theorem and its applications, circular and hyperbolic functions and their inverses.

**SECTION-D**

Exponential and Logarithmic function of a complex numbers, Expansion of trigonometric functions, Gregory's series, Summation of series.

**Books Recommended:-**

1. N. Piskunov: Differential and Integral Calculus, Peace Publishers, Moscow.
2. Gorakh Prasad: Differential Calculus, Pothishala Pvt. Ltd., Allahabad.
3. Erwin Kreyszig: Advanced Engineering Mathematics, John Wiley and Sons, 1999.

**SEMESTER-I****STATISTICS****PAPER-I: STATISTICAL METHODS-I****Time: 3 Hours****Marks: 35****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Meaning and scope of statistics, Collection of data, presentation of data, diagrammatic representation of data. Attributes and variables, discrete and continuous frequency distribution of a variable, graphical representation of frequency distribution of a variable.

**SECTION-B**

Central tendency: Measures of central tendency, namely, Arithmetic mean, median, mode, Geometric mean, Harmonic mean and their comparisons with an ideal measure of central tendency.

**SECTION-C**

Dispersion and its measures, range, mean deviation, quartile deviation and standard deviation. Advantages of standard deviation as measure of dispersion over the other measures, Relative measures of dispersion, coefficient of variation.

**SECTION-D**

Central and non-central moments, central-moments expressed in terms of moments about an arbitrary origin and vice-versa. Sheppard's correction for moments. Skewness and its measures, Kurtosis and its measures.

**Books Recommended:-**

1. Gupta, S.C. and Kapoor, V.K.: Fundamentals of Mathematical Statistics, Sultan Chand and Company, 2007.
2. Croxton F.E., Cowden, D.J. and Kelin, S. (1973): Applied General Statistics, Prentice Hall of India.
3. Goon, A.M. Gupta, M.K. and Dasgupta B.: Fundamentals of Statistics, Vol. I, World Press, 2005.

**Books Suggested for Supplementary Reading:-**

1. Goon, A.M. Gupta, M.K. and Dasgupta B.: Basic Statistics, World Press, 2005.
2. Gupta, S.C.: Statistical Methods, Himalayan Publishing House, 2003.
3. Nagar, A.L. and Das, R.K., Basic Statistics, Oxford University Press, 2005.

**SEMESTER-I****STATISTICS****PAPER-II: PROBABILITY****Time: 3 Hours****Marks: 35****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Random experiments, sample space, events, mutually exclusive and exhaustive events, algebra of events, various definitions of the probability, axiomatic probability function and its properties.

**SECTION-B**

Finite sample spaces; equally likely outcomes, additive law of probability, conditional probability, multiplicative law of probability, independent events. Baye's Theorem and its applications.

**SECTION-C**

Random variable, examples of random variables, Discrete and continuous random variables, probability mass function and density function, cumulative distribution function, Properties of distribution function of discrete and continuous random variables. Real valued functions of one dimensional random variables and the procedures of finding the probability distribution functions of such functions illustrated by examples.

**SECTION-D**

Expected value of a random variable and of functions of one dimensional random variable. Properties of expected values. variance of random variable and its properties. Moment generating function and its properties.

**Books Recommended:-**

1. Meyer, P.L. Introductory Probability and Statistical Applications, Addison—Wesley, (1970).
2. Ross, S.A. First Course in Probability, Sixth Edition, Pearson Education, 2007.

**Books Suggested for Supplementary Reading:-**

1. Biswal, P.C., Probability and Statistics, Prentice Hall, India, 2007.
2. Miller, I, and Miller, M. Mathematical Statistics with Applications, Seventh Edition, Pearson Education, 2007
3. Hogg. R.V., Mcken, J.W. and Craig. A.T., Introduction to Mathematical Statistics, Pearson Education, 2007.

**SEMESTER-I****STATISTICS****PAPER-III: Practical based on PAPER-I: STATISTICAL METHODS-I****Time: 2 Hours****Marks: 30**

Teaching time for practical paper would be one hour per week.

**List of practical exercises**

1. Exercises on presentation of Data
2. Exercises on measurers of central tendency
3. Exercises on measures of dispersion
4. Exercises on calculation of moments
5. Exercises on measures of Skewness
6. Exercises on measures of Kurtosis

Students are required to prepare a practical note book with at least 15 exercises based upon the above list. At the end of semester, there is a practical examination jointly conducted by two examiners (one is internal and another one is external). External examiner is appointed by the university and the internal examiner is appointed by the principal of the concerned college. This practical examination will cover a written test followed by a viva-voce to test the practical knowledge of students about the contents. The candidates are allowed to use Non-Programmable calculators. The distribution of marks is as under:-

1. Practical Note book: 05
2. Viva – voce: 10
3. Exercises: 15

**SEMESTER-I**

**CHEMISTRY (INORGANIC CHEMISTRY-A)  
(THEORY)**

**Time: 3 Hrs.  
45 Hrs (3 Hrs/week)**

**Marks: 35**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**I. Atomic Structure**

**10 Hrs.**

Idea of de Broglie matter waves, Heisenberg uncertainty principle, atomic orbitals, Schrodinger wave equation, significance of  $\psi^1$  and  $\psi^2$ , quantum numbers, radial and angular wave functions and probability distribution curves, shapes of s,p,d orbitals. Aufbau and Pauli exclusion principles, Hund's multiplicity rule. Electronic configurations of the elements and ions.

**SECTION-B**

**II. Periodic Properties**

**10 Hrs.**

Position of elements in the periodic table; effective nuclear charge and its calculations. Atomic and ionic radii, ionization energy, electron affinity and electronegativity –definition, methods of determination or evaluation, trends in periodic table and applications in predicting and explaining the chemical behaviour.

**SECTION-C**

**III. Chemical Bonding**

**12 Hrs**

Covalent Bond –Valence bond theory and its limitations, directional characteristics of covalent bond, various types of hybridization and shapes of simple inorganic molecules and ions.  $\text{BeF}_2$ ,  $\text{BF}_3$ ,  $\text{CH}_4$ ,  $\text{PF}_5$ ,  $\text{SF}_6$ ,  $\text{IF}_7$ ,  $\text{SnCl}_2$ ,  $\text{XeF}_4$ ,  $\text{BF}_4$ ,  $\text{SnCl}_6$ . Valence shell electron pair repulsion (VSEPR) theory to  $\text{NH}_3$ ,  $\text{H}_3\text{O}^+$ ,  $\text{SF}_4$ ,  $\text{ClF}_3$ ,  $\text{ICl}_2$  and  $\text{H}_2\text{O}$ . MO theory, homonuclear (elements and ions of 1st and 2nd row), and heteronuclear ( $\text{BO}$ ,  $\text{CN}^-$ ,  $\text{CO}$ ,  $\text{NO}^+$ ,  $\text{CO}^+$ ,  $\text{CN}$ ), diatomic molecules, multicenter bonding in electron deficient molecule (Boranes). Percentage ionic character from dipole moment and electronegativity difference.

## SECTION-D

### IV. Ionic Solids

13Hrs

Concept of close packing, Ionic structures, (NaCl type, Zinc blende, Wurtzite, CaF<sub>2</sub> and antifluorite, radius ratio rule and coordination number, limitation of radius ratio rule, lattice defects, semiconductors, lattice energy and Born–Haber cycle, solvation energy and solubility of ionic solids, polarizing power and polarisability of ions, Fajan’s rule. Metallic bond– free electron, valence bond and band theories.

**Weak Interactions** –Hydrogen bonding, Vander Waals forces.

#### Books Suggested:-

1. Cotton, F.A., Wilkinson, G., Gaus, P.L., Basic Inorganic Chemistry; 3rd edition, Pubs: John Wiley Sons. 1995.
2. Lee, J.D., Concise Inorganic Chemistry; 4th edition, Pubs: Chapman Hall Ltd., 1991.
3. Shriver, D.E., Alkins, P.W., Langford, C.H., Inorganic Chemistry; 4th edition, Oxford Publisher: Oxford University Press, 2006.
4. Douglas, B. McDaniell, D., Alexander, J., Concepts and Models of Inorganic Chemistry; 3rd edition, Pubs: John Wiley and Sons Inc., 1994.
5. Miessler, G.L., Larr, D.A., Inorganic Chemistry; 3rd edition, Pubs: Pearson Education Inc., 2004.
6. Jolly, W.L., Modern Inorganic Chemistry; 2nd edition, Pubs: McGraw-Hill Publishing Company Limited, 1991.
7. Purcell, K.F., Kotz, J.C., Inorganic Chemistry; Pubs: W.B. Saunders Company, 1977.
8. Puri, B.R., Sharma, L.R., Kalia, K.C., Principles of Inorganic Chemistry; 30th edition, Pubs: Milestones Publisher, 2006-07.
9. University General Chemistry, C.N.R. Rao, Macmillan.
10. Inorganic Chemistry, W.W. Porterfield Addison-Wesley.
11. Inorganic Chemistry, A.G. Sharpe, ELBS.

**SEMESTER-I****CHEMISTRY (ORGANIC CHEMISTRY-B)  
(THEORY)****Time: 3 Hrs.****45 Hrs. (3 Hrs./Week)****Marks: 35****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A****I. Structure and Bonding****(5 Hrs.)**

Hybridization, bond lengths and bond angles, bond energy, localized and delocalized chemical bond, Vander Waals interactions, resonance, hyperconjugation, aromaticity hydrogen bonding and Inductive and electrometric effects.

**II. Mechanism of Organic Reactions****(6 Hrs.)**

Curved arrow notation, drawing electron movements with arrows, half-headed and double-headed arrows, homolytic and heterolytic bond breaking. Types of reagents – electrophiles and nucleophiles. Types of organic reactions. Energy considerations.

Reactive intermediates –Carbocations, carbanions, free radicals, carbenes, arenes and nitrenes (with examples). Assigning formal charges on intermediates and other ionic species.

**SECTION-B****III. Alkanes****(4 Hrs.)**

Isomerism in alkanes, sources, methods of formation (with special reference to Wurtz reaction, Kolbe reaction, Corey-House reaction and decarboxylation of carboxylic acids), physical properties and chemical reactions of alkanes. Mechanism of free radical halogenation of alkanes: orientation, reactivity and selectivity.

**IV. Alkenes and Alkynes****(8 Hrs.)**

Nomenclature of alkenes, methods of formation, mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halides, regioselectivity in alcohol dehydration. The Saytzeff rule, Hofmann elimination, physical properties and relative stabilities of alkenes. Chemical reactions of alkenes-mechanisms involved in hydrogenation, electrophilic and free radical additions, Markownikoff's rule, hydroboration-oxidation, oxymercuration reduction. Epoxidation, ozonolysis, hydration, hydroxylation and oxidation with  $\text{KMnO}_4$ .

Substitution at the allylic and vinylic positions of alkenes.

Nomenclature, structure and bonding in alkynes. Methods of formation. Chemical reactions of alkynes, acidity of alkynes. Mechanism of electrophilic and nucleophilic addition reactions, hydroboration-oxidation, metal-ammonia reductions, oxidation and polymerization.

### SECTION-C

#### V. Alkyl and Aryl Halides

(7 Hrs.)

Nomenclature and classes of alkyl halides, chemical reactions. Mechanisms of nucleophilic substitution reaction of alkyl halides, SN2 and SN1 reactions with energy profile diagrams. Nuclear and side chain reactions. The addition-elimination and the elimination-addition mechanisms of nucleophilic aromatic substitution reactions. Relative reactivities of alkyl halides vs allyl, vinyl and aryl halides.

#### VI. Cycloalkanes:

(5 Hrs.)

Baeyer's strain theory and its limitations. Ring strain in small rings (cyclopropane and cyclobutane), theory of strainless rings. The case of cyclopropane ring: banana bonds.

### SECTION-D

#### VII. Arenes and Aromaticity

(10 Hrs.)

Nomenclature of benzene derivatives. The aryl group. Aromatic nucleus and side chain. Structure of benzene: Molecular formula and Kekule structure. Stability and carbon carbon bond lengths of benzene, resonance structure, MO picture.

Aromaticity: the Huckel's rule, aromatic ions.

Aromatic electrophilic substitution—general pattern of the mechanism, role of  $\pi$  and  $\sigma$  complexes. Mechanism of nitration, halogenation, sulphonation, mercuration and Friedel Crafts reaction. Energy profile diagrams. Activating and deactivating substituents, orientation and ortho/para ratio. Side chain reactions of benzene derivatives. Methods of formation and chemical reactions of alkylbenzenes.

#### Books suggested:-

1. Morrison, R.T., Boyd, R.N., Organic Chemistry; 6th edition, Pubs: Prentice-Hall, 1992.
2. Solomons, T.W., Fryhle, C.B., Organic Chemistry; 9th edition, Pubs: Wiley India, 2007.
3. Wade Jr., L.G., Singh, M.S., Organic Chemistry; 6th edition, Pubs: Pearson education, 2008.
4. Mukherji, S.M., Singh, S.P., Kapoor, R.P., Organic Chemistry; Pubs: New Age International, 1985.
5. Carey, F.A., Sundberg, R.J., Advanced Organic Chemistry Part B: Reactions and Synthesis.
6. Fundamentals of Organic Chemistry, Solomons, John Wiley.
7. Introduction to Organic Chemistry, Sireitwieser, Heathcock and Kosover, Macmilan.

**SEMESTER-I****CHEMISTRY****(PRACTICAL)**

**Duration: 3½ Hrs.**  
**6 Period/Week**

**Marks: 30**

**Inorganic Chemistry:** Semi Micro analysis. Cation analysis, Separation and identification of ions from groups I, II, III, IV, V, and VI. Anionic analysis. Four ions with no interference.

**Organic Chemistry Laboratory Techniques****Determination of Melting Point**

Naphthalene 80–82°C	Cinnamic acid 132.5–133°C
Benzoic acid 121.5–122°C	Salicylic acid 157.5–158°C
Urea 132.5–133°C	Acetanilide 113.5–114°C
Succinic Acid 184.5–185°C	m–dinitro benzene 90°C
P–dichlorobenzene 52°C	Aspirin 135°C

**Determination of Boiling Point**

Ethanol 78°C	Cyclo Hexane 81.4°C,
Benzene–80°C	Toluene 110°C

**Practical Examination**

1) Inorganic Mixture	18
2) Melting Point/Boiling point of organic substance	05
3) Viva–Voce	04
4) Note Book	03

**Books Suggested:-**

1. Vogel's Qualitative Inorganic Analysis, revised, Svehla, Orient Longman.
2. Experimental Inorganic Chemistry, W.G. Palmer, Cambridge. Standard Methods of Chemical. Analysis, W.W. Scott: The Technical Press.
3. Laboratory Manual in Organic Chemistry, R.K. Bansal, Wiley Eastern.
4. Vogel's Textbook of Practical Organic Chemistry, B.S. Furniss, A.J. Hannaford, V. Rogers, P.W.G. Smith and A.R. Tatchell, ELBS.
5. Experiments in General Chemistry, C.N.R. Rao and U.C. Aggarwal, East-West Press.

## SEMESTER-I

### PHYSICS

#### PAPER-A: MECHANICS (THEORY)

**Time: 3 Hours**

**Marks: 35**

**Total Teaching Hrs: 45(3Hrs./week)**

**Pass Marks: 35%**

#### **Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### SECTION-A

Cartesian and spherical polar co-ordinate systems, area, volume, velocity and Acceleration in these systems. Solid angle, Relationship of conservation laws and symmetries of space and time.

**11 Lectures**

#### SECTION-B

Various forces in Nature (Brief introduction) centre of mass, equivalent one body problem, central forces, equation of motion under central force, equation of orbit and turning points. Kepler Laws. Concept of Ether and Michelson-Morley experiment.

**11 Lectures**

#### SECTION-C

Inertial frame of reference. Galilean transformation and Invariance. Non Inertial frames, coriolis force and its applications. Variation of acceleration due to gravity with latitude. Foucault pendulum.

**11 Lectures**

#### SECTION-D

Elastic collision in Lab and C.M. system, velocities, angles and energies, cross section of elastic scattering, Rutherford scattering. Rigid Body motion; Rotational motion, principal moments and Axes. Euler's equations, precession and elementary gyroscope.

**12 Lectures**

#### **Books Suggested:-**

1. Mechanics, Berkeley Vol.-I by C. Kittel.
2. Mechanics, H.S. Hans & S.P. Puri.

## SEMESTER-I

### PHYSICS

#### PAPER-B: ELECTRICITY AND MAGNETISM (THEORY)

**Time: 3 Hours**

**Total Teaching Hrs: 45(3Hrs./week)**

**Pass Marks: 35%**

**Marks: 35**

#### **Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### SECTION-A

Basic ideas of Vector Calculus Gradient, Divergence, curl and their physical significance. Laplacian in rectangular, cylindrical and spherical coordinates. Coulomb's Law for point charges and continuous distribution of charges. Electric field due to dipole, line charge and sheet of charge. Electric flux, Gauss's Law and its applications. Gauss's divergence theorem and differential form of Gauss's Law. Green's theorem.

**12 Lectures**

#### SECTION-B

Work and potential difference. Potential difference as line integral of field. Electric potential due to a point charge, a group of point charges, dipole and quadrupole moments, long uniformly charged wire, charged disc. Stoke's theorem and its applications in Electrostatic field,  $\text{curl } E=0$ . Electric fields as gradient of scalar potential. Calculation of E due to a point charge and dipole from potential. Potential due to arbitrary charge distribution and multipole moments.

**11 Lectures**

#### SECTION-C

Poisson and Laplace's equation and their solutions in Cartesian and spherical coordinates. Concept of electrical images. Calculation of electric potential and field due to a point charge placed near an infinitely conducting sheet. Current and current density, equation of continuity. Microscopic form of Ohm's Law ( $J = \sigma E$ ) and conductivity, Failure of Ohm's Law.

**11 Lectures**

#### SECTION-D

Interaction between moving charges and force between parallel currents. Behaviour of various substances in magnetic field. Definition of M and H and their relation to free and bound currents. Permeability and susceptibility and their interrelationship. Orbital motion of electrons and diamagnetism, Paramagnetism and Ferromagnetism.

**11 Lectures**

#### **Books Suggested:-**

1. Fundamentals of Electricity and Magnetism by Arthur F. Kipp.
2. Electricity and Magnetism, Berkeley Physics Course, Vol. II by E.M. Purcell.
3. Introduction to Classical Electrodynamics by David Griffith.
4. EM Waves and Radiating System by Edward C. Jordan and K.G. Balmain.
5. Fields and Waves Electromagnetic by David K. Cheng.

## SEMESTER-I

### PHYSICS

#### (PRACTICAL)

#### General Guidelines for Practical Examination: (4.5h/week)

- |    |  |                  |
|----|--|------------------|
| I. | The distribution of marks is as follows: | <b>Marks: 30</b> |
|    | i) One experiment                        | <b>15 Marks</b>  |
|    | ii) Brief Theory                         | <b>5 Marks</b>   |
|    | iii) Viva-Voce                           | <b>5 Marks</b>   |
|    | iv) Record (Practical file)              | <b>5 Marks</b>   |
- II. There will be one sessions of 3 hours duration. The paper will have one session.  
Paper will consist of 8 experiments out of which an examinee will mark 6 experiments and one of these is to be allotted by the external examiner.
- III. Number of candidates in a group for practical examination should not exceed 12.
- IV. In a single group no experiment be allotted to more than three examinee in any group.
1. To study the dependence of moment of inertia on distribution of mass (by noting time periods of oscillations using objects of various geometrical shapes but of same mass).
  2. To establish relationship between torque and angular acceleration using fly wheel.
  3. To find the moment of inertia of a flywheel.
  4. Study of bending of beams and determination of Young's modulus.
  5. Determination of Poisson's ratio for rubber.
  6. To determine energy transfer, coefficient of restitution and verify laws of conservation of linear momentum and kinetic energy in elastic collisions using one dimensional collisions of hanging spheres.
  7. To verify the laws of vibrating string by Melde's experiment.
  8. Measure time period as a function of distance of centre of suspension (oscillation) from centre of mass, plot relevant graphs, determine radius of gyration and acceleration due to gravity.
  9. Find the value of 'g' by Kater's pendulum.
  10. Measure time period of oscillation of a Maxwell needle and determine modulus of rigidity of the material of a given wire.
  11. To measure logarithmic decrement, coefficient of damping, relaxation time, and quality factor of a damped simple pendulum.

**SEMESTER-I**

**HOME SCIENCE  
(THEORY)**

**FAMILY RESOURCE MANAGEMENT & HYGIENE**

**Time: 3 Hours  
6 Periods/week**

**Max. Marks: 100  
Theory Marks: 60  
Practical Marks: 40**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Home : Meaning and importance of Home Science
2. Functions of Home: Renting v/s owning
3. Selection of site, soil, locality for a house
4. Principles of planning a house, orientation aspect, prospect, privacy, roominess, grouping, flexibility, circulation, sanitation, furniture requirement and practical considerations.

**SECTION-B**

5. Elements of Art: line, form, shape, texture, size.
6. Principles of Art in relation to interior decoration, Harmony, Balance, Rhythm, Proportion and Emphasis.
7. **Colour**
  - Characteristic of colour
  - Colour wheel
  - Colour schemes
  - Use of colour in Int. Decoration for various rooms.

**SECTION-C**

8. **Hygiene**
  - a) Definition of hygiene.
  - b) Definition of infection, sources, carrier and control.
  - c) Definition and types of Immunity
9. **Causes and Spread of following Diseases**
  - a) Caused by insects–malaria, dengue.
  - b) Conveyed by ingestion–Enteric fever, Jaundice, Dysentery, and Diarrhea.
  - c) Spread by droplet infection, chicken pox, measles, and mumps tuberculosis.
  - d) Sexually transmitted diseases–AIDS.

**SECTION-D**

10. **Food Hygiene**
  - a) Food Hygiene – Definition
  - b) Hygiene during preparation, service and storage of food.
  - c) Food poisoning, causes and prevention.
  - d) Purification and storage of Water for home.

**SEMESTER-I****HOME SCIENCE****FAMILY RESOURCE MANAGEMENT & HYGIENE  
(PRACTICAL)**

**Time: 3 Hours**  
**4 Periods/week**

**Marks: 40**

Cleaning & polishing of household metals, brass, copper, silver, gold, aluminum, iron, steel, non stick pans, plastic.

Colour Wheel.

Colour Schemes– Monochromatic, Analogous, Complementary. Prepare any five texture sheets using Fevicol, Spray, Stencil, Thread, Pulling, Crayons marbling etc.

Floor decoration of Alpana & Rangoli for different Occasions.

**Instruction for the practical examiner:-**

There will be three questions from the syllabus. The division of marks will be as follows:

Cleaning of metal.	<b>10 Marks</b>
Color schemes/textured sheet.	<b>10 Marks</b>
Rangoli/alpna	<b>10 Marks</b>
File and viva	<b>10 Marks</b>

**Note: One Practical group will consist of 15 students.**

**SEMESTER-I**

**CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)  
PAPER-A: BASIC NUTRITION**

**(THEORY) Time-3 hrs**  
**Pds-4/Week**

**Marks: 40**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**OBJECTIVE:**

To understand the relationship between nutrition and human well being.  
To know the functions, sources and deficiencies of nutrient in human body.

**COURSE CONTENT**

**SECTION-A**

1. Introduction to nutrition- Food as a sources of nutrients, definition of Nutrition, nutrients, adequate, optimum and malnutrition.
2. Classification of food.
3. Methods of cooking: Boiling, Steaming, frying, baking, roasting, Braising and microwave cooking.
4. Methods of enhancing nutritive value of food: fermentation, sprouting, & supplementation, fortification and enrichment.

**SECTION-B**

5. Carbohydrates - Composition, classification, functions, food sources, requirement, deficiencies.
6. Protein - Composition, Classification, Essential and Non- essential amino acids, food Sources, functions, deficiencies.

**SECTION-C**

7. Fats and Oils- Composition, Classification, Saturated, Unsaturated fatty acids, food sources, Functions, requirement and deficiencies.
8. Energy-
  - (i) Unit of energy, food as a source of energy, energy value of food, body need of energy.
  - (ii) Factors affecting energy require
    - a) Determination of energy value of foods using calorimeter
    - b) Specific Dynamic action
    - c) Basal Metabolism
    - d) Determination of basal metabolism
    - e) Factors affecting the BMR

**SECTION-D**

9. Vitamin- Classification, unit of measurements sources, requirements functions and deficiency excess & Toxicity of following vitamins.
  - (a) Fat Soluble vitamins A, D, E and K
  - (b) Water soluble vitamins- C, B1-B2, B3, B6, B12 and Folic acid.
10. Mineral- Functions, Sources, Bio-availability requirement and deficiency of following Minerals:
  - a) Calcium, iron, iodine, fluorine, Sodium, Potassium, Phosphorus, and Magnesium'.
11. Importance of water in Nutrition.

## **SEMESTER-I**

### **CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)**

#### **BASIC NUTRITION (PRACTICAL)**

**Pds- 3pds/ week**

**(THERE WILL BE NO PRACTICAL EXAM)**

- 1) Identification of different food stuffs, weight and measures and cooking terms.
- 2) Beverage- e.g. Hot and cold (Tea, Coffee, fruit and milk based, beverage) etc.
- 3) Prepare 5 dishes using following methods:
  - (a) Boiling: Pulses, rice, soups, desserts, etc.
  - (b) Shallow Frying: Pancakes, snacks, etc.
  - (c) Deep Frying: Sweet and savory snacks, main dishes, etc.
  - (d) Fermenting and Steaming: Idli, dosa, dhokla, etc.
  - (e) Supplementatation; cereal-pulse combination, cereal-vegetables combination etc.
- 4) Daily and occasional cleaning of kitchen equipments, utensils counter, floor and cupboards.

#### **References:-**

1. Guthrie, Hele, Andrews, Introductory Nutrition, 6th ed.ion St. Louts, Times Mirror/Mosby College: 1988.
2. Mudambi S.R. M.V. Rajgopal. Fundamental of Foods & Nutrition (2nd ed.) Wily Eastern Ltd. 1990.
3. Swaminathan S: Advanced text book on foods Nutrition, Vol. I, II (2nd ed. Revised & enlarged) B. app C-1985.

**SEMESTER-I****CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)****PAPER-B: NUTRITIONAL BIOCHEMISTRY (THEORY)**

**Time-3 hrs**  
**Pds-4/Week**

**Marks: 40**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**OBJECTIVE:**

This Course help, students to gain understanding of the application of Biochemistry to foods, Nutrition and diet therapy.

**COURSE CONTENT****SECTION-A**

1. Carbohydrate Metabolism - Digestion, Absorption, Glucose, Transport Glycolysis, Metabolism of lactate, and pyruvate, citric acid cycle, gluconeogenesis, HMP Shunt pathway.

**SECTION-B**

2. Lipid Metabolism- Digestion- Absorption, transport oxidation of fatty acids, biosynthesis of fatty acids mobilization of fats (lipolysis), Ketogenesis, Metabolism of phospholipids and cholesterol.
3. Amino acid metabolism- Digestion, Absorption, Transport, General Pathways, Biochemical Transformations and metabolism.

**SECTION-C**

4. Enzymes - Definition, Classification, Specificity of enzymes and factors affecting enzyme activity.
5. Basal Metabolism - Definition and factors affecting basal metabolism, Specific dynamic action of food stuffs, Estimation of B.M.R.

**SECTION-D**

6. Metabolism of inorganic element, calcium, iron, phosphorus and magnesium.
7. Water and electrolyte balance.

**SEMESTER-I****CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)****PAPER-B: NUTRITIONAL BIOCHEMISTRY (PRACTICAL)**

**Time-3 Hours**  
**3 pds/Week**

**Marks: 20**

**Note- Paper will be set on the spot by the examiner**

1. Qualitative analysis of monosaccharide's, disaccharides and polysaccharides.
2. Quantitative estimation of Glucose.
3. To test the reactions of proteins fats and carbohydrates in milk, egg and bread
4. To find out adulteration in food stuffs.

**References:**

1. Lehninger: A.L. Nelson D Cox MM, Principles of Biochemistry, 1993, 2nd Edition, CBS Publication.
2. Singh Sukhdev, Dr. Om Parkash, PV's Bio Chemistry and Clinical Pathology 2005, Edition, S. Vikas &

## SEMESTER-I

### COSMETOLOGY (VOCATIONAL) (THEORY)

**Time: 3 hrs.**

**Periods/Week-6**

**Max. Marks: 100**

**Theory Marks: 40**

**Practical Marks: 60**

#### **Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### **OBJECTIVES**

**To create awareness about the cosmetology**

**To impart knowledge of skin and personal grooming**

#### **SECTION-A**

##### **Cosmetology**

- Introduction
- Aims and Importance

#### **SECTION-B**

##### **Skin:**

- What is Skin?
- Structure of skin
- Functions of skin
- Types of skin
- Common skin problems

#### **SECTION-C**

##### **Personal Grooming:**

- Personal Hygiene
- Care of mouth, teeth, ears, feet, removing body hair, skin care and cosmetics, care of hair, nail and hand care, care of your clothing.

#### **SECTION-D**

##### **Massage:**

- Theory of massage
- Benefits of massage
- Basic knowledge of facial muscles

**SEMESTER-I****COSMETOLOGY (VOCATIONAL)****(PRACTICAL)****Time: 4hrs.****Marks: 60****Periods/Week – 6****Note: Paper will be set on the spot by the examiner.****Project file will be evaluated by External Examiner which carries – 10 marks.****1. Massage:**

- a) Methods of massage
- b) Massage Techniques

**2. Facial Treatments:**

- a) Knowledge of skin analysis
- b) Facial Massage

- 3. Skin Treatments:** Different types of skin treatments with the help of natural ingredients like packs, masks and creams for different skins.

**SEMESTER-I****FASHION DESIGNING AND GARMENT CONSTRUCTION  
(VOCATIONAL)****FASHION DESIGNING-1  
(THEORY)**

**Time: 3 Hrs.**  
**Period: 3/Week**

**Max Marks: 100**  
**Theory Marks: 40**  
**Practical Marks: 60**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A****1. Fashion Terminology-**

Fashion, Fad, Style, Classic fashion, Fashion trends, Haute couture, Prêt-a porter, Mass production

**SECTION-B****2. Fashion Cycle, Broken Fashion Cycle.****3. Factors Affecting Fashion Cycle.****SECTION-C****4. Origin of Fashion.****5. Theories of Fashion Adoption.****SECTION-D****6. Components of Fashion- Line, Color, Texture**

**SEMESTER-I**

**FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)**

**SCALE DRAWING AND GARMENT CONSTRUCTION  
(PRACTICAL)**

**Time: 4 Hrs.**

**Marks: 60**

**Period: 2 x 6/Week**

**Instructions for the paper setters:**

1. Construction of any one sample from section A.
2. Two questions from Part B.
3. File Work.

**Marks: 25**

**Marks: 25**

**Marks: 10**

**SECTION-A**

1. **Sewing machine- Parts, Care & use**
2. **Make samples of the followings**  
 Basting, Hemming, Running, Back stitch, Buttonhole fasteners.  
 Seams- Plain seam, Plain seam with top stitching, French seam, Run 'n' fell, Counter Seam.  
 Seam finishers- blanket stitch, over stitch, pinking, overcasting.  
 Finishes of neckline- facing & binding  
 Pleats- knife, box, inverted box.  
 Placket-one piece, continuous.  
 Pocket-patch, cross pocket.  
 Tucks- pin, cross, shell, space.  
 Gathers
3. **Drafting and construction**  
 (a) Drafting and construction of basic bodice block and sleeve block.

**SECTION-B**

4. 1 Basic block figure
2. Distribution of weight
3. Flesh figure
4. Formulae of hand and feet
5. Formulae of face
6. Legs formulae
7. Necklines and Collars
8. Sleeves and Cuffs
9. Skirts- Pleats, gathers, frills, fringes

**SEMESTER-I**  
**EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL)**  
**(THEORY)**

**Time: 3 Hrs.**

**Periods/week: 6 Theory**

**Maximum Marks: 100**

**Marks: 60**

**Practical Marks: 40**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Definition & Importance of Child Development, Stages of Child Development.
2. Principles of Development.
3. Factors affecting Development.

**SECTION-B**

4. Care of Mother: Pregnancy, Discomforts, physical & psychological care, preparation for Delivery.
5. Growth & Development during Pre-Natal period, Factors affecting Pre-Natal Development.

**SECTION-C**

6. Reflexes of new born child.
7. Care of Infant: Breast feeding, Bottle feeding, Weaning
8. Clothing for the Infant.

**SECTION-D**

9. Immunization Schedule.
10. Common Childhood Diseases: common cold, cough, fever, measles.

**SEMESTER-I****FOOD SCIENCE AND QUALITY CONTROL (VOCATIONAL)****FSQC (I): FOOD CHEMISTRY AND NUTRITION  
(THEORY)****Time: 3 Hours****Max. Marks: 75****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Introduction to nutrition—food as a source of nutrients, function of foods, definition of nutrition, nutrients, adequate, optimum and good nutrition, malnutrition.
2. Inter-relationship between nutrition and health—parameters of good health.
3. Food guide—basic five food groups – Importance, uses.
4. Food Metabolism – digestion, absorption, transport, utilization of nutrients in the body.
5. Water—function, sources, requirement, water balance, effect of deficiency on health.
6. Carbohydrate—composition, classification, food sources, storage in body, reaction, structure, functions of mono, oligo and poly saccharides in foods.
7. Fat and oils — composition, saturated, unsaturated fatty/acids, food sources, functions of fats. Nomenclature and classification. Physical and chemical properties Emulsions and emulsifiers. Role of fat and oil in food processing and its organoleptic characteristics.
8. Proteins — composition essential, non-essential amino acids, sources of protein, functions, protein deficiency diseases. Physico-chemical properties. Modification of food protein during processing and storage.

**SECTION-B**

9. Energy — unit of energy, food as a source of energy, calorific value of food need for energy, Basic metabolic role, utilization of fat energy requirement.
10. Minerals, function, source, bio-availability, deficiency of calcium, iron, iodine, fluorine, sodium, potassium.
11. Vitamins: classification, sources, functions and deficiency, diseases of following vitamins
  - a) Fat soluble vitamins – Vitamin. A, D, E and K
  - b) Water soluble vitamins: vitamins C and B-Complex
12. Recommended dietary Requirements: Nutrient requirement for adult men and women as per ICMR.
13. Enzymes: Nomenclature definition, specificity, catalysis, enzyme, kinetics, Factors influencing enzyme activity, controlling enzyme action. Role of enzymes in food processing. Modification of food by endogenous enzyme. Enzyme inhibitors in foods.
14. Pigments sources, chemical and physical properties, effect of processing and storage on pigments.
15. Flavours – vegetables, fruits, spices, sea foods, fermented products.

### SECTION-C

16. Cereals and Pulses: Cereals and millets, breakfast cereals, cereal products, fast foods structure, processing, use in variety of preparations, selection, variety storage, nutritional aspects and cost. Pulses & legumes – Production (in brief) selection and variety, storage, processing, use in variety of preparations, nutritional aspects and cost.
17. Milk and Milk Products: Composition, classification, quality processing, storage, spoilage, uses, cost, nutritional aspects of milk curds, butter milk, paneer, khoa, cheese, ice-cream, kulfi and various kinds of processed milk.

### SECTION-D

18. Egg: Production, grade, quality, selection storage, spoilage, uses, cost and nutritional aspects.
19. Fish, Poultry and Meat: Selection, purchase, storage, uses, cost and nutritional aspects, spoilage of fish, poultry & meat.
20. Vegetables and Fruits: Variety, selection, purchase, storage availability, cost use and nutritional aspects of raw and processed vegetables and fruits.

### References:-

1. Guthrie, Hele, Andrews, Introductory Nutrition 6th ed. St. Louis, Times Mirror/Mosby College, 1988.
2. Mudambi S.R., M.V. Rajgopal, Fundamentals of Foods and Nutrition (2nd ed.) Wiley Eastern Ltd., 1990.
3. Swaminathan S.: Advanced text book of Foods Nutrition Vol. 1, 11, (2nd ed. revised & enlarged) B. App.C. 1985)
4. Willson, PVAD, Principles of Nutrition, 4th ed. New York John Willey & Sons, 1979.
5. Food Chemistry, ed. Or Fenema 2nd ed.
6. Food Chemistry, Mian Hoagland Meger
7. Food Chemistry He Mann

### Book Recommended:-

1. Food Chemistry by O.R. Fennema, 3rd ed, 1996, CRC Press, USA.
2. Mudambi S.R., M.V. Rajgopal, Fundamentals of Foods and Nutritions (2nd ed.) Wiley Eastern Ltd., 1990.
3. Swaminathan S.: Advanced text book of Foods Nutrition Vol. 1,11, (2nd ed. revised & enlarged) B.app.C. 1985)
4. Willson, PVAD, Principles of Nutrition, 4th ed. New York John Willey & Sons, 1979.
5. Food Chemistry, ed. Or Feneema 2nd ed.
6. Food Chemistry by Mian Hoagland Meger
7. Food Chemistry by He Mann

**SEMESTER-I****FSQC-2: FOOD CHEMISTRY AND NUTRITION  
(PRACTICAL)****Max. Marks: 25**

Instructions for the Paper Setters: Question Paper will be set with the mutual consent of Internal and External Examiners at the spot.

**List of Practicals**

1. Determination of acid value.
2. Determination of iodine value.
3. Determination of saponification value.
4. Quantitative value (testing of proteins, lipids and carbohydrates in different foods).
5. Estimation of Vitamin C.
6. Separation of amino acids by chromatography (paper in exchange column).
7. Chlorination of water.
8. Determination of food enzymes.
9. Determination of fibers content in food.
10. Salt determination in food products.
11. Estimation of Volatile and nonvolatile acids in vinegar.
12. Estimation of fat in food sample by Soxhlet apparatus.
13. Cream separation, neutralization and ripening of milk.
14. Preparation of butter.
15. Preparation of Ghee.

## SEMESTER-I

### PAPER-A: FINE ARTS (DRAWING & PAINTING) (THEORY)

**Time: 3 Hrs.**

**Marks: 100**  
**Theory Marks: 50**  
**Practical Marks: 25+25**

**Work Load:**

Theory	-	3 periods per week.
Practical	-	9 periods per week.
Total	-	12 periods per week.

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### SECTION-A

1. Six limbs of Indian Painting (Shadanga)
2. Elements of Art: Line, Colour, Form, Texture, Light and Shade

#### SECTION-B

What is composition?

Principles of Art: Perspective, Proportion, Rhythm, Balance, Harmony, Dominance

#### SECTION-C

**Classical Mural Tradition**

Ajanta Paintings: Its technique, Subject Matter, Characteristics, its Paintings

- (i) Bodhisatva Padampani
- (ii) Mother and Child before Buddha
- (iii) Chhadanta Jataka
- (iv) Dying Princess
- (v) Dream of Maya

#### SECTION-D

1. Pre-historic Paintings: Bhim Bhetka Caves
2. Indus Valley Civilization: Its town planning and Sculptures
  - (i) Dancing Girl
  - (ii) Priest
  - (iii) Mother Goddess
  - (iv) Pashupati Seal

**SEMESTER-I****FINE ARTS****PAPER-B: STILL LIFE (DRAWING)  
(PRACTICAL)****Time: 5 Hrs****Marks: 25****Work Load:**

Theory	-	3 periods per week.
Practical	-	9 periods per week.
Total	-	12 periods per week.

**Objects to Study:** Proportion, Volume, Texture, Study of Light and Shade.**Number of Objects:** Three objects excluding drapery.**Medium:** Oil/Water/Pastel Colours**Size:** ½ Imperial

**SEMESTER-I****FINE ARTS****PAPER-C: LETTER WRITING / COLLAGE MAKING  
(PRACTICAL)****Time: 5 Hrs****Marks: 25****Work Load:**

Theory	-	3 periods per week.
Practical	-	9 periods per week.
Total	-	12 periods per week.

Study of different styles of alphabets

Creative writing of different styles

**Language:** Any

**Medium:** Poster Colours/Indian Ink

**Size:** ½ Imperial

**COLLAGE:** Based on some theme with bits of coloured paper, magazines and newspaper cut with hand.

**Candidates will submit:-**

5 sheets of still life, 2 collage, 3 sheets of letter writing/ slogan writing on different creative styles  
Sketch book containing 50 sketches.

**Note:** The paper setter should set the Paper C only on letter writing and collage. The topic will be given by two examiners.

**SEMESTER-I**

**GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)**  
**(THEORY)**

**Time: 3 Hrs.**

**Max Marks: 100**

**Theory Marks: 50**

**Practical Marks: 50**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Brief history of Jewellery of

- (i) Indus Valley civilization,
- (ii) Shunga Period.

**SECTION-B**

Brief history of Jewellery of

- (i) Gupta Period,
- (ii) Mughal period.

**SECTION-C**

Introduction of stone setting and types of stone setting in detail

- (i) Pave setting
- (ii) Prong setting
- (iii) Channel setting
- (iv) Bezel setting
- (v) Pressure setting
- (vi) Invisible setting

Introduction of different types of cuts in gem stones and their importance

- (i) Cabochon cut
- (ii) Step cut
- (iii) Emerald cut
- (iv) Round brilliant cut
- (v) Faceted beads
- (vi) Princess cut
- (vii) Mixed cut

**SECTION-D**

Introduction of Indian jewellery

- (i) Indian tribal jewellery
- (ii) Symbolic jewellery of south India
- (iii) Traditional jewellery of Punjab

**Suggested Books:-**

1. Traditional jewellery of India by Oppi Untracht, Thames and Hudson publication
2. Indian jewellery dance of the peacock by Usha R Bala Krishnan
3. Jewellery concept of technology by Oppi Untracht

**SEMESTER-I**

**GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)**

**DESIGN  
(PRACTICAL)**

**Time: 5 Hours**

**Marks: 50**

**Instruction for the paper setters:**

The Paper will be set by the external examiner on the spot out of prescribed syllabus.

1. Exercises on
  - i) Pencil Control
  - ii) Drawing & Shading in 2 Dimensional and 3 Dimensional objects
  - iii) Motif development for jewellery design
2. Development of Plain and Simple Design for necklaces, pendants, earrings
3. Collecting and recognizing forms for designing and using them in their designs (Medium–Watercolour pencils)

Each student has to submit 20 designs of necklace with earrings, pendent sets, and other accessories at the end of semester.

**SEMESTER-I**

**STILL PHOTOGRAPHY & AUDIO PRODUCTION (VOCATIONAL)  
(THEORY)**

**Time: 3 Hours**

**Max. Marks: 50**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**Introduction to Communication:** Introduction to Communication: Concept, Process & Functions.

**Mass Communication:** Intra-personal, Inter-personal, Group and Mass Communication.  
Feedback evaluation of Communication Barriers of communication.

**SECTION-B**

**Verbal Communication:** Concept and Practice, Language and Mass Communication, Language uses in different mass media, Language and Society.

**Non-Verbal Communication:** Non-Verbal Communication, Para Language, Dress and Body Language, Non-Verbal Communication and Mass Communication.

**SECTION-C**

**Role of light:** Properties of light, electromagnetic spectrum, theories of light transmission, spectrum, dispersion, reflection, transmission, refraction, polarization, Controlling light pin-hole camera, simple concave convex, mirror lenses.

**SECTION-D**

**Camera & It's types:** What is Camera & types of Camera.

**Tools of dark rooms:** (B & W) accessories.

**Suggested Readings:-**

<b>Sr. No.</b>	<b>Book Name</b>	<b>Author</b>
1.	Hand Book of Journalism & Mass Communication	Mr. Vir Bala Aggarwal
2.	Basic Photography	John Hedgecoe
3.	35 mm Photography	Bavister

**SEMESTER-I**

**STILL PHOTOGRAPHY & AUDIO PRODUCTION (VOCATIONAL)**

**BASIC PHOTOGRAPHY  
(PRACTICAL)**

**Time: 6 Hours**

**Marks: 50**

**Instructions for the Paper Setters:**

1. The paper will be set by the external examiner on the spot considering the syllabus.
2. Creative work on the part of the students is to be emphasized.  
Technical competence is expected. The students should also use updated and latest techniques in his/her work.
3. Photographs clicked during examination are supposed to be submitted by the student in the form of C.D. or D.V.D. as desired by the examiner.

**Instructions for Students:**

1. Attendance in departmental seminars and extension lectures and college tours shall be obligatory for all students.
2. Students are not allowed to use previous clicked Photographs.
3. Sizes of photographs will be given by External Examiner (Class– Teacher) as per requirement.

**Course Contents:**

1. Mechanism Shutter, aperture, focus, camera body, film transport, view finder.
2. Comparison/ classification of camera their focusing mechanism, view finder, range finder  
T.C.R.S.C.R. films format: large, medium miniature disc etc.
3. Handling of camera.
4. Loading and shooting B/W films.
5. Effects of aperture.
6. Effects of shutter speed.
7. Making of grey scale.

**Suggested Readings:**

<b>Sr. No.</b>	<b>Book Name</b>	<b>Author</b>
1.	Hand Book of Journalism & Mass Communication	Mr. Vir Bala Aggarwal
2.	Basic Photography	John Hedgecoe
3.	35 mm Photography	Bavister

**SEMESTER-I**

**APPLIED ARTS**

**ART APPRECIATION AND ADVERTISING  
(THEORY)**

**Time: 3 Hours**

**Max. Marks: 50**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**Colour:** What do you mean by term colour and Importance of colour in day to day life.

**Types of Colour:** Hue, Tint, Shade or Tone, Value, Saturation.

**Colours in Design:** Importance and effect of colour in Design.

**SECTION-B**

**What is Design:** Definition and Meaning of Design, Elements of Design (Line, Form, Shape, Color, Rhythm, Texture)

**2D and 3D Design:** Introduction, Meaning and difference between 2D and 3D design.

**SECTION-C**

**Logo Design:** Importance and Role of Logo in today's modern world, History and Origin of Logo Design.

**Monogram:** Introduction of Monogram and its history.

**SECTION-D**

**Meaning of Advertising:** Introduction of advertising in detail with its meaning and purpose of advertising in brief.

**Role of an Artist in Advertising:** Detailed introduction of artist's role in advertising and his functions performed.

**Suggested Readings:-**

<b>Sr. No.</b>	<b>Book Name</b>	<b>Author</b>
1.	2000 Color Palette Swatches	Graham Davis
2.	Logo Cafe	Page 1 Publisher

**SEMESTER-I**

**APPLIED ARTS**

**GREETING CARDS AND LOGO  
(PRACTICAL)**

**Time: 6 Hours**

**Marks: 50**

**Size: ¼ imperial**

**Medium: Poster Color/ Ink**

**Instructions for the Paper Setters:-**

1. The paper will be set by the Examiner on the spot considering the syllabus.
2. Imaginative and Creative work on the part of the students is to be emphasized. Imagination and Technical competence is expected. The students should also use updated and latest techniques in his/her work.

**Instructions for the Students:**

1. Attendance in departmental seminars and extension lectures and college tours shall be obligatory for all students.
2. Minimum 2 works should be enhanced in Photoshop.
3. Size: As required.

**Course Contents:-**

**Greeting Cards:** Greeting Cards, Greeting Card Envelopes, Gift Paper Designing, Gift Name Card Designing and Bookmark Designing.

**Logo:** Logos, Monograms, Visiting Cards, Letterheads and Envelopes.

**Suggested Readings:-**

<b>Sr. No.</b>	<b>Books Name</b>	<b>Author</b>
1.	Logo Café	Page 1 Publisher
2.	Logo Design	ED Julius, Viedemall Taschan Publisher
3.	Letter Head & Logo Design	Design Army, Rock Pot Publisher

**SEMESTER-I****SCULPTURE  
(THEORY)****Time: 3 Hours****Max. Marks: 100  
Theory Marks: 50  
Practical Marks: 50****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

What is Sculpture? Basic terms related to Sculpture

Meaning of Relief and Round Sculpture

**SECTION-B**

Clay Modeling

Quality and Preparation of Clay, Form and Shape, Clay Modeling

**SECTION-C**

Stone & Wood Carving: Types of stones, techniques and tools

Process of Plaster mould and Casting,

**SECTION-D**

Composition

Elements in Sculptural work: Mass, Movement, Scale, Plane, Texture, Contours, Uses of Material in Sculpture.

**SEMESTER-I**

**SCULPTURE**  
**(PRACTICAL)**

**Time: 6 Hours**

**Marks: 50**

1. Low Relief in Terracotta (Total No. 2) (Based on natural and geometrical form)
2. Mix Media (Total No. 2) (Paper Clay, Wire, M-Seal etc.)
3. Mask. (Total No. 2) (Paper, Plaster on Paper Mache)

**SEMESTER-I**

**MUSIC (VOCAL)**

**(THEORY)**

**Theory: 3 Hours**  
**Practical: 20 Min. for each student**

**Total Marks: 100**  
**Theory Marks: 50**  
**Practical Marks: 50**

**Teaching Work load:**  
**Theory: 3 Periods per week**

**Practical: 9 Periods per week**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Method of tuning your instrument (Tanpura).
2. Definition and explanation of the following Musical Terms: Sangeet, Swar, Naad, Saptak, Jati.

**SECTION-B**

3. Contribution and Life Sketches of the following musicians: Tansen or Swami Hari Das, Abdul Karim Khan.
4. Elementary knowledge of Wedding Song of Punjabi culture with special reference to Ghorian and Suhag.

**SECTION-C**

5. Description and notation of the following Ragas: Bilawal, Khamaaj and Bhopali.
6. Description and notation of the following Taals: Teentaal, Dadra.

**SECTION-D**

7. Contribution of Sri Guru Nanak Dev Ji towards Indian Music.
8. Definition and explanation of the following terms in the context of Gurmat Sangeet: Raga, Mohalla, Rahao, Rababi.

**SEMESTER-I****MUSIC (VOCAL)****(PRACTICAL)****Time: 20 Minutes****Marks: 50**

1. One Drut Khayal in each of the following Ragas with simple Alaps and Tanas: Bilawal, Khamaaj and Bhopali.
2. One Sargam Geet from prescribed Ragas.
3. Ability to play five alankars on the Harmonium based on the Bilawal Thata.
4. Ability to recite Teental and Dadra showing Khali Tali with hand motion in Ekgun, Dhugan Layakaries.
5. Recitation of Ghorian.
6. Knowledge of the following non – detailed Ragas: Alahaiya Bilawal, Deshkaar & Kalingara

**Books Recommended:-**

1. Rag Parichya Part – I to IV by Shri Harish Chnder Srivastava.
2. Sangeet Shastra Darpan Part – II (Punjabi) published by Punjabi University, Patiala.
3. Sangeet Vishard Sangeet Karayalya, Hathras.
4. Sangeet Shastra Darpan Shanti Govardhan.
5. Hamare Sangeet Rattan Sangeet Karyalaya, Hathras.
6. Kramik Pustak Malika by Vishnu Narayan Bhathkhande.
7. Sangeet Nibandhavli, Dr. Gurnam Singh, published by Punjabi University, Patiala.
8. Sikh Dharam Ate Bhakti Sangeet, Dr. Jitender Kaur.
9. Gurmat Sangeet (Vishesh Ank) Amrit Kirtan Trust, 422, 15/A, Chandigarh.

**SEMESTER-I**

**MUSIC (INSTRUMENTAL)  
(THEORY)**

**Total Marks: 100**  
**Theory Marks: 50**  
**Practical Marks: 50**

**Theory: 3 Hrs.**  
**Practical: 20 Min. for each student**  
**Practical: 9 periods per week**  
**Teaching work load:**  
**Theory: 3 periods per week**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. History of your own instrument.
2. Definition and Explanation of the following musical terms:- Sangeet, Shruti, Swar, Saptak, Aaroh, Avroh, Pakad and Thata.

**SECTION-B**

3. Define Raag, Explain its Rules and Jatis.
4. Define laya and taal, its types and features:- vibhag, matra, taali, khali, sam.
5. Life-Sketch and Contribution of the following musicians:- Allaudin khan, Pt. Vishnu Narayan Bhatkhande.

**SECTION-C**

6. Description of all and Notation of any of the following Ragas:- Kalyan, Bilawal and Bhopali.
7. Brief knowledge and notation of the following Talas:- Teen taal and Dadra taal.

**SECTION-D**

8. Contribution of Guru Arjun Dev ji towards Indian music.
9. Definition and explanation of the following terms in the context of Gurmat Sangeet: Raga, Mohalla, Rahao, Rababi.

**Books Recommended:-**

1. Raag Parichey (Part 1,2) by H.C.Shrivastava.
2. Sangeet Shastra Darpan (Part-1,2) by Shanti Gowardhan.
3. Sangeet Visharad, Sangeet Karyalaya Hathras.
4. Hamare Sangeet Ratan, Luxmi Narayan Garg, Sangeet Karayalaya, Hathras
5. Punjab Ki Sangeet Prampara by Geeta Paintal.
6. Sangeet Subodh by Dr.Davinder Kaur
7. Gurmat Sangeet (Vishesh Ank) Amrit kirtan Trust, Chandigarh.
8. Gurmat Sangeet, Prabandh ate Pasaar, Dr. Gurnam Singh.
9. Sitar Vadan Di Prampara, Sharminder Kaur, Publication Bureau:- Punjabi University Patiala.

**SEMESTER-I****MUSIC (INSTRUMENTAL)****(PRACTICAL)****Time: 20 Minutes****Marks: 50**

1. Ability to play Ten Alankars of Bilawal Thaata on your Instrument.
2. (i) One Razakhani Gat in each of the following ragas with toras and jhalla:– Raag Kalyan, Bilawal & Bhopali.  
(ii) Play only gat in other two ragas.
3. Ability to recite Teen taal and Dadra taal on hand in ekgun and dugun layakaries.
4. Ability to sing five alankars with harmonium.

**SEMESTER-I**  
**INDIAN CLASSICAL DANCE**

**(THEORY)**

**Time: 3 Hrs.**

**Max. Marks: 100**  
**Theory Marks: 50**  
**Practical Marks: 50**

**Teaching 3 periods per week**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Origin and development of Kathak Dance from Ancient to Mughal period.
2. Definition of the following terms:-Theka, Tatkar, Thaah, Amad, Salami, Tora, Paran, Tehai.
- 3 Knowledge of:- Ang, Pratyang, Upang

**SECTION-B**

4. Study of Rasa and their importance in Kathak Dance.
5. Role of Dance in Society.

**SECTION-C**

6. Knowledge of the Folk Dances of Punjab with their style, costume and music.
7. Notation of Teen Taal with its:
 

(a) Tatkar in Thaah, Dugun and Chaugun Layakaries.		
(b) Thaah	-	1
(c) Tehai	-	1
(d) Amad	-	1
(e) Salami	-	1
(f) Tora	-	2
(g) Paran	-	1
(h) Chakardar Paran	-	1
(i) Kavita	-	1

**SECTION-D**

8. Description of the following talas with the notation of their Thekas in Thaah, Dugun, Tigun and Chaugun Layakaries.
 

(i) Teentaal	(ii) Tilwara	(iii) Kehuva
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9. Recognition of the following taals through some bols given by the examiner:
 

(a) Teentaal	(b) Tilwara	(c) Kehuva
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10. Notation of Nagma in Teen Taal.

**SEMESTER-I****INDIAN CLASSICAL DANCE****Books Recommended:-**

1. Kathak Nritya Ka Prichey  
Subhashni Kapoor  
Radha Publications, New Delhi, 1997.
2. Kathak Sundaryatmak  
Shashtriya Nritya  
Shikha Kharey,  
Knishka Publishers, New Delhi, 2005.
3. Atihasik Pripeksh Mein  
Kathak Naritya  
Maya Tak  
Knishka Publishers, New Delhi, 2006.
4. Nibandh Sangeet  
Laxmi Naryan Garg  
Sangeet Karyalya, Hathras, 2004.
5. Kathak Naritya Shiksha  
Dr. Puru Dadhich  
Bindu Parkashan, Ujjain(MP.)

**SEMESTER-I**  
**INDIAN CLASSICAL DANCE**

**(PRACTICAL)**

**Time: 20 Minutes**

**Marks: 50**

**Teaching 9 periods per week**

Practical demonstration of the following:

**1. Teen Taal its:**

(a) Tatkar in Thaah, Dugun, Tigun and Chaugun Layakaries.		
(b) Thaat	–	1
(c) Tehai	–	1
(d) Amad	–	1
(e) Salami	–	1
(f) Tora	–	2
(g) Paran	–	1
(h) Chakardar Paran	–	1
(i) Kavita	–	1

2. Padhant of whole material by hand in all Taal mentioned above.
3. Recognition of the compositions such as Tehai, Layakaries etc. composed by the Examiner.
4. Practice of Hand movements with Tal.
5. Ability to demonstrate Punjabi Folk Dance.
6. Ability to play Nagma of Teen Taal on Harmonium.

## SEMESTER-I

### TABLA

#### (THEORY)

**Theory: 3 Hours**  
**Practical: 20 Minutes for each student**

**Total Marks: 100**  
**Theory Marks: 50**  
**Practical Marks: 50**

**Teaching work load:**  
**Theory 3 periods per week.**  
**Practical – 9 periods per week.**

#### **Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### SECTION-A

- Definitions with full explanations of the following:  
Dayan, Bayan, Laya, Avartan, Tala, Qayada, Tihai and Laggi.
- Ten Paraans of Tala.

#### SECTION-B

- Importance of tala in Music and Dance.
- Life & Contribution of the following Musicians in the field of Tabla Vadan:-  
Zakir Husain, Anindo Chatterjee, Pt Kishan Maharaj.

#### SECTION-C

1. Detail knowledge and notation of following Talas:
2. Teentaal and Tilwara
3. Origin & Development of Tabla and its present form.

#### SECTION-D

4. Detailed Study of Gharanas in tabla vaadan.
5. Role of Tabla in Gurmat Sangeet.

**SEMESTER-I****TABLA****(PRACTICAL)****Time: 20 Minutes****Marks: 50**

1. Talas Prescribed: Dadra, Teental.
2. Two Laggis in Dadra.
3. Teental: Two Qaidas with Four Paltas each, Two Mukhras, Two Tukra, Two Tihais.
4. Practice of playing the above taals with Vocal and Instrumental performance.
5. Ability to play Theka of Tilwara Taal.
6. Ability to play Nagma on harmonium in Teental.
7. Tuning of Tabla.
8. Ability to sing National Anthem with Harmonium.

**Books Recommended:**

1. Sangeet Visharad: Basant, Sangeet Karyalaya Hathras, 2004.
2. Tal Prabandh: Pt. Chhote Lal Misher Knishka Publisher, New Delhi, 2006.
3. Bharti Sangeet Vadhya: Lal Mani Mishra, Bhartiya Gayan Peeth Parkashan, 1973.
4. Hamare Sangeet Rattan: Sangeet Karyalaya Hathras, 1978.
5. Tal Martand: Sataya Narayan Vashishath, Sangeet Karyalaya Hathras, 1994.
6. Tal Parichay Part –I to IV, Harish Chandra Srivastav, Sangeet Karyalaya, Hathras.
7. Tal Prakash, Bhagwat Saran Sharma, Sangeet Karyalaya, Hathras.
8. Sangeet Mein Tal Vadon Ki Upyogita, Chitragupta, Radha Publication, New Delhi, 1992.

## SEMESTER-I

### COMPUTER SCIENCE COMPUTER FUNDAMENTAL & PC SOFTWARE (THEORY)

**Time: 3 Hours**  
**4 Hours/week**

**Max. Marks: 100**  
**Theory Marks: 75**  
**Practical Marks: 25**

#### **Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### SECTION-A

1. Introduction to computer and its uses: milestones in hardware and software. Batch oriented/Online/real time application.
2. Computer as a system: basic concepts: stored programs, functional units and their inter-relation: communication with the computer.
3. Data storage devices and media: primary storage: storage addressed, and capacity, type of memory: secondary storage; magnetic tape – data representation and R/W: magnetic disc, fixed & removable, data representation and R/W, floppy disc drives, Winchester disc drive, conventional disc drives, Data organization, Compact Disc.

#### SECTION-B

1. Input/Output devices: Key-tape/diskette devices, light pen mouse and joystick, source data automation (MICR, OMR, and OCR), screen assisted data entry; portable/hand held terminals for data collection, vision input system.
2. Printed output: Serial, line, page, printers; plotters, visual output; voice response units.

#### SECTION-C

Introduction to Windows based operating system and Desktop icons

#### SECTION-D

##### **MS-Office:**

Introduction to Word, Introduction to Parts of Word Window (Title Bar, Menu Bar, Tool Bar, The Ruler, Status Area), Page Setup, Creating New Documents, Saving Documents, Opening an Existing documents, insert a second document into an open document, Editing and formatting in document, Headers and Footers, Spell Checking, Printing document, Creating a Table Using the Table Menu and table formatting, Borders and Shading, Templates and Wizards, Mail Merge

##### **MS Power Point:**

Introduction to MS Power point, Power point elements, Templates, Wizards, Views, Exploring Power Point Menu, Working with Dialog Boxes, Adding Text, Adding Title, Moving Text Area, Resizing Text Boxes, Adding Art, Starting a New Slide, Starting Slide Show, Saving presentation; Printing Slides, Views (View slide sorter view, notes view, outlines view) Formatting and enhancing text formatting, Creating Graphs (Displaying slide show and adding multi-media)

**SEMESTER-I****COMPUTER SCIENCE****(PRACTICAL)****Marks: 25****2 Hours/week****Practical based on Computer Fundamental & PC Software**

Windows, MS Word, Power Point,

**References:**

1. R.K. Taxali: Introduction to Software Packages, GalgotiaPublicaions.
2. MS–Office Compiled by SYBIX
3. MS–Office BPB Publications.
4. Introduction to Computer by P.K. Sinha
5. Windows Based Computer Courses by Gurvinder Singh & Rachpal Singh, Kalyani Publishers.

**SEMESTER-I****INFORMATION TECHNOLOGY (VOCATIONAL)****COMPUTER FUNDAMENTAL & OFFICE AUTOMATION  
(THEORY)****Time: 3 Hours****Max. Marks: 100  
Theory Marks: 75  
Practical Marks: 25****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A****Fundamentals:**

Basic Block Diagram of the Computer System, Basic Elements of the Computer System (CPU, Keyboard, Mouse, Monitor), Generations of computers, Computer Number System BIT, Byte, binary, Decimal, Hexadecimal, Octal system, Conversion from one System to another, Binary Arithmetic Subtraction, Multiplication), Input Devices (Keyboard, Mouse Joystick, light pen, and trackball), Output Devices (Monitors or Printers), Memories (Primary and Secondary), RAM, PROM, EPROM, EEROM), cache memory, Storage Devices (Floppy disk, hard Disk, compact Disk, tape)

Computer Languages: machine Language, assembly language, High level languages, operating System, Batch Processing multi-programming, time sharing.

**SECTION-B**

**Windows:** Windows concepts features, Windows structure, desktop, taskbar, start menu, My computer, recycle bin, Windows Accessories.

**Word Processing:** Introduction to Word, Introduction to Parts of Word Window (Title Bar, Menu Bar, Tool Bar, The Ruler, Status Area), Page Setup, Creating New Documents, Saving Documents, Opening an Existing documents, insert a second document into an open document, Editing and formatting in document, Headers and Footers, Spell Checking, Printing document, Using the Thesaurus, Using Auto Correct, Auto Complete and Auto Text, Creating a Table Using the Table Menu and table formatting, Borders and Shading, Templates and Wizards, Mail Merge, Drawing Objects, Using Frames to position Objects, Handling Graphics, Tables and Charts.

**SECTION-C**

**Worksheets: MS-Excel:** Creating worksheets, entering data into worksheet, saving & quitting worksheet, opening and moving around in an existing worksheet, Toolbars and menus, Working with single and multiple workbook, Working with formulae, formatting of worksheet.

**SECTION-D**

**MS Power Point:** Introduction, elements, Text, Title, Sliders Formatting and enhancing text formatting, Views, Creating Graphs, Displaying slide show and adding multi-media.

**SEMESTER-I**

**INFORMATION TECHNOLOGY (VOCATIONAL)**

**COMPUTER FUNDAMENTAL & OFFICE AUTOMATION  
(PRACTICAL)**

1. On the basis of Computer Fundamental & Office Automation: **Marks: 25**

**Books Recommended:-**

1. M.S. Office, The Complete Reference by Keitel, McGraw Hill.
2. Office XP the Complete Reference by Kelly, Edition 2001, McGraw Hill.
3. B.RAM, "Computer Fundamental" First Edition, Dhanpat Rai & Sons Pub.
4. Peter Norton, "Introduction to Computers" 6th Edition 2004, McGraw Hill, HTML, DHTML  
JavaScript, "GyanBayrose" 3rd Edition BPB.

**SEMESTER-I**  
**COMPUTER MAINTENANCE (VOCATIONAL)**

**PRINCIPLE OF ELECTRONICS**  
**(THEORY)**

**Time: 3 Hours**

**Max. Marks: 100**

**Theory Marks: 75**

**Practical Marks: 25**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**Introduction to Electronics:** Voltage Source, Current Source, Electronic Components, CRO, Digital Multimeter.

**Network Theorems:** Thevenin's Theorem, Maximum Power Transfer Theorem, Norton's Theorem, Power Supplies.

**SECTION-B**

**Semiconductor Devices:** P-N Junction, Zener Diode, LEDs, Photodiodes, Transistors, Field Effect Transistor, Metal Oxide Field Effect Transistor.

**SECTION-C**

**Digital Fundamentals:** Number System, Logic Gates, Boolean algebra.

**SECTION-D**

**Digital Logic Circuits:** Multiplexers, Demultiplexers, Encoders, Decoders, Flip-Flops, Counters, Shift Registers, Semiconductor Memories.

**References:**

1. Basic Electronics and Linear Circuits: NN Bhargava (TTTI Chandigarh) –Tata McGraw Hill, 2004.
2. Principles of Electronics V.K. Mehta–S. Chand–2004
3. Digital Computers Electronics: Malvino–Tata McGraw Hill 3rd Edition, 1995.

**SEMESTER-I****COMPUTER MAINTENANCE (VOCATIONAL)****(PRACTICAL)****List of Practical Based on Principle of Electronics****Marks: 25**

1. To Study the Characteristics of P–n junction diodes in forward bias.
2. To Study the Characteristics of P–n junction diodes in reverse bias.
3. To Study the Characteristics of transistor in common base mode.
4. To Study the Characteristics of zener diode.
5. To verify Thevenin's Theorem.
6. To verify maximum power transfer theorem.
7. To verify the truth tables of various logic gates.
8. To verify the truth tables of universal gates and construction of different gates from them.
9. To verify the truth tables of SR and JK flip–flops.

## SEMESTER-I

### COMPUTER APPLICATIONS (VOCATIONAL)

### COMPUTER FUNDAMENTALS & PC SOFTWARE (THEORY)

**Time: 3 Hours**  
**4 Hours /week**

**Max. Marks: 100**  
**Theory Marks: 75**  
**Practical Marks: 25**

#### **Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### SECTION-A

#### 1. **Elements of a Computer System:**

- 1.1 What is a Computer?
- 1.2 Evolution of Computers, their classification and limitations, Computer organization.
- 1.3 Uses of Computers in modern society (e.g. Weather forecasting, Census, Oil Exploration, Speech Recognition, Banking, Publishing, Accounting, Research, etc.)
- 1.4 Characteristics of Desktop
- 1.5 Characteristics of Portables/Laptops
- 1.6 Introduction to Hardware, Software, Operating System, Translators.

#### 2. **Input Output Devices:**

- 2.1 **Input Devices and Functions**
  - \* Keyboard and teletypewriter terminals
  - \* Joystick
  - \* Mouse
  - \* Light Pen
  - \* Magnetic Tapes and cassettes
  - \* Magnetic Disks
  - \* Floppy and Winchester Disks
  - \* Optical Marks Reader (OMR)
  - \* Optical Character Reader (OCR)
  - \* Magnetic Ink Character Reader (MICR)
  - \* Punched Cards
- 2.2 **Output Devices and Functions:**
  - a) Visual Display UNIT (Monitor), Pixel & resolution, Monitors Size, Monochrome & Color, VGA & SVGA
  - b) Plotters
  - c) Printers
  - d) CTD

#### 3. **H/W Organization of a Desktop Computer:**

- 3.1 Introduction to hardware components
- 3.2 C.P.U. Control units, ALU, Registers
- 3.3 Instruction Characteristic and Instruction Cycle
- 3.4 Memory
  - a) RAM – Dynamic RAM, Static RAM
  - b) ROM–PROM, EPROM, EEPROM
  - c) Cache, Virtual, Extended and Expanded Memories

### 3.5 Secondary Memory (Storage devices)

- a) Floppy Disk
- b) Hard Disk
- c) DAT
- d) Video or Optical Disk (CD ROM)
- e) CTD

### 3.6 Moderns and its Types

## SECTION-B

### 4. Basics of Windows Vista:

- a) The Desktop, the Taskbar
- b) Start Menu
- c) Program, Document, Settings, Find, Help, Run, Shutdown
- d) About the My Computer Icon
- e) About the networking neighborhood Icon
- f) Recycle bin
- g) Folders–Creation and Definition
- h) New Rules for File Names
- i) Windows Explorer (Definition)
- j) Shortcut Icons with creation and definition

## SECTION-C

### MS–Word:

Introduction to Word, Introduction to Parts of Word Window (Title Bar, Menu Bar, Tool Bar, The Ruler, Status Area), Page Setup, Creating New Documents, Saving Documents, Opening an Existing documents, insert a second document into an open document, Editing and formatting in document, Headers and Footers, Spell Checking, Printing document, Creating a Table Using the Table Menu and table formatting, Borders and Shading, Templates and Wizards, Mail Merge Drawing Objects, Using Frames to position Objects.

## SECTION-D

### MS Power Point:

Introduction to MS Power point, Power point elements, Templates, Wizards, Views, Exploring Power Point Menu, Working with Dialog Boxes, Adding Text, Adding Title, Moving Text Area, Resizing Text Boxes, Adding Art, Starting a New Slide, Starting Slide Show, Saving presentation; Printing Slides, Views (View slide sorter view, notes view, outlines view) Formatting and enhancing text formatting, Creating Graphs (Displaying slide show and adding multi–media)

### Text Books:

1. MS–Office Compiled by SYBIX
2. MS–Office BPB Publications.
3. Introduction to Computer by P.K. Sinha

**SEMESTER-I**

**COMPUTER APPLICATIONS (VOCATIONAL)**

**COMPUTER FUNDAMENTALS & PC SOFTWARE**

**(PRACTICAL)**

**2 Hours/week**

**Marks: 25**

**SEMESTER-I****INFORMATION TECHNOLOGY SPECILIZATION SOFTWARE DEVELOPMENT  
(VOCATIONAL)****INTRODUCTION TO PROGRAMMING (C)  
(THEORY)****Time: 3 Hours****Max. Marks: 100****Theory Marks: 75****Practical Marks: 25****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**Introduction to Software:** Definition of Software, Characteristics, Software Development Tools, Software Development life cycle

**Data Representation:** Flowcharts, Problem Analysis, Decision Trees/Tables, Pseudo code and algorithms.

**SECTION-B**

**Fundamentals:** Character set, Identifiers and Key Words, Data types, Constants, Variables, Expressions, Statements, Symbolic Constants. Operations and Expressions: Arithmetic operators, Unary operators, Relational Operators, Logical Operators, Assignment and Conditional Operators, Library functions.

**SECTION-C**

**Data Input and Output:** Single character Input, single character output, entering input data, more about scanf functions, writing output data, more about printf functions, gets and puts functions, interactive programming. Control Statements: Preliminaries, While, Do-while and for statements, Nested loops, If-else, Switch, Break – Continue statements.

**SECTION-D**

**Functions:** Brief overview, defining, accessing functions, passing arguments to function, specifying argument data types, function prototypes, recursion.

**Arrays:** Defining, processing an arrays, passing arrays to a function, multi-dimensional arrays.

**SEMESTER-I**

**INFORMATION TECHNOLOGY SPECILIZATION SOFTWARE DEVELOPMENT  
(VOCATIONAL)**

**(PRACTICAL)**

Basic C Programming

**Marks: 25**

Operational Knowledge of C Programming

**Note: Oral and written test will be conducted by External examiner with the help of internal examiner.**

**SEMESTER-I****AUTOMOBILE MAINTENANCE (VOCATIONAL)  
(THEORY)****Time: 3 Hours****Periods per week: Theory: 6****Theory Marks: 60****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A****General Introduction to the Automobile:**

Introduction, Light commercial vehicle, Medium & Heavy Commercial vehicle, Main parts of Automobiles, Body, Chassis, Main parts of Chassis, classification of Chassis with respect to fitting of Engines, Wheel Base, Front overhang, Gear overhang, Wheel Track. Long Wheel-base chassis.

**SECTION-B****Shop Safety and Tools:**

Safety in the shop. Safety rules. Measuring systems and measuring tools. Shop Hand Tools.

**SECTION-C**

**Frames:** Introduction, Types of Frame, Types of sections used in Frame, Chassis Repair. Frameless Integral frame.

**SECTION-D**

Properties of body of Vehicle, Safety standards for vehicles. Accidental Repair Special tools used for Denting.

**SEMESTER-I****AUTOMOBILE MAINTENANCE (VOCATIONAL)  
(PRACTICAL)****LAB-I****Time: 3 Hours****Marks: 40****Period Per week Practical: 6****Practical:**

1. Engine dismantling and assembling.
2. Valve Timings.
3. Ignition Timings.
4. Injection Timings.

**References:-**

1. Basic Automobile Engineering Written by CP Nakra (Punjabi Edition) Published by Dhanpat Rai and Sons, Jalandhar, Delhi.
2. Automotive Mechanics William H. Crouse. (English Edition) Donald L. Angkin Published by Tata McGraw-Hill Publishing Company Ltd., New Delhi.

## SEMESTER-I

### REFRIGERATION & AIR CONDITIONING (VOCATIONAL)

#### (THEORY)

**Time: 3 Hours**

**Periods 6 Hours/week**

**Theory Marks: 60**

#### **Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### SECTION-A

**Introduction:** Basic concepts & definition Thermodynamics, System properties State process, Cycle, pressure, density specific volume. First & Second law of Thermodynamics, Processes, Constant volume, constant pressure, isothermal & isotropic etc.

- a) **Work & Heat:** Work, power & energy Heat, sp. Heat, sensible heat Latent Heat of vapour & fusion specific Heat of gases & units of Heat.
- b) **Elementary Heat Transfer:** Conduction operation, Radiation, Thermal conductivity & phase.

#### SECTION-B

**Refrigeration:** Terminology of Refrigeration; Definition of “TON” as applied to refrigeration. Methods of Refrigeration & applications, Definitions of C.O.P.; Refrigeration effect & work Input.

**Refrigerants:** Introduction, classification of Refrigerant, properties of Important Refrigerants as (R-II, R-12, R-22, NH<sub>3</sub> etc.) Secondary, Refrigerants & brines antifreezer solutions, selection of Refrigerant for required purpose.

#### SECTION-C

**Effect of Refrigerants on Environment:** Introduction regarding Environmental friendly refrigerants.

#### SECTION-D

**Vapour Compression System:** Introduction, vapour compression cycle on PV.Ts & PH diagrams. Simple calculations on work done, C.O.P. etc.

Factors affecting the performance of vapour compression system, cycle description, C.O.P. Sub cooling super Heating, Multistage cascade system. Non-idealities, effects of pressure drop & non-isotropic compression. Calculation of ref. effect, power.

**Vapour Absorption System:** Simple absorption cycle, analysis with NH<sub>3</sub>-Water or Lithium bromide, C.O.P. use of Charts, Electral use system. Comparison of Vapour Compression with Z Vapour absorption system.

**SEMESTER-I****REFRIGERATION & AIR CONDITIONING (VOCATIONAL)  
(PRACTICAL: LAB-I)****Time: 3 Hours****Period Per week Practical: 6****Marks: 40****List of Experiments:**

1. To study the basic tools eg. spanners, cutting & Threading tools, bending tools etc.
2. Cutting, flattening & joining of tubes.
3. Bending of tubes of diff. sizes.
4. Soldering, brazing & pinching of tubes.
5. Cutting of G.I. & Copper tubes.

**List of Reference Books:-**

1. Ref & AC S. Domkundwar Dhanpat Rai
2. Ref & AC S.C. Arora —do—
3. A Course in P.L. Batlaney Khanna Ref. & A.C. M. Singh Khurmy Publishers Royal Pub.

**SEMESTER-I**

**ਧਰਮ ਅਧਿਐਨ**

**ਧਰਮ, ਆਦਿ ਧਰਮ ਅਤੇ ਧਰਮ ਸੰਬੰਧੀ ਆਧੁਨਿਕ ਮੁੱਦੇ**

ਸਮਾਂ 3 ਘੰਟੇ  
ਲੈਕਚਰਾਂ ਦੀ ਗਿਣਤੀ:75%

ਕੁਲ ਅੰਕ:100  
ਪਾਸ ਹੋਣ ਲਈ ਅੰਕ:35

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**ਸੈਕਸ਼ਨ-ਏ**

**ਧਰਮ ਦੀ ਆਮ ਜਾਣਕਾਰੀ**

1. ਧਰਮ: ਪਰਿਭਾਸ਼ਾ ਤੇ ਸਰੂਪ
2. ਧਰਮ ਤੇ ਦਰਸ਼ਨ: ਸਮਾਨਤਾ ਅਤੇ ਅੰਤਰ
3. ਧਰਮ ਤੇ ਨੈਤਿਕਤਾ: ਸਮਾਨਤਾ ਅਤੇ ਅੰਤਰ

**ਸੈਕਸ਼ਨ-ਬੀ**

**ਆਦਿ ਧਰਮ**

1. ਪ੍ਰਾਚੀਨ ਮਨੁੱਖ ਅਤੇ ਉਸਦਾ ਧਰਮ: ਕੁਦਰਤ ਦੀ ਕਰੋਧੀ ਤੇ ਧਰਮ ਦਾ ਆਰੰਭ
2. ਮੁਢਲੇ ਧਾਰਮਿਕ ਵਿਸ਼ਵਾਸ: ਐਨੀਮਿਜ਼ਮ, ਮਾਨਾ, ਟੋਟਮ, ਫਿਟਿਸ਼
3. ਧਾਰਮਿਕ ਪ੍ਰਗਟਾਵੇ: ਜਾਦੂ, ਟੈਬੂ, ਮਿਥ

**ਸੈਕਸ਼ਨ-ਸੀ**

**ਧਾਰਮਿਕ ਸੰਸਕਾਰ**

1. ਧਾਰਮਿਕ ਸੰਸਕਾਰ: ਅਰਥ ਅਤੇ ਸਰੂਪ
2. ਜਨਮ, ਧਰਮ-ਪ੍ਰਵੇਸ਼, ਵਿਆਹ ਅਤੇ ਮ੍ਰਿਤਕ ਸੰਸਕਾਰ
3. ਧਾਰਮਿਕ ਤਿਉਹਾਰਾਂ ਦਾ ਸਮਾਜਿਕ-ਧਾਰਮਿਕ ਮਹੱਤਵ

**ਸੈਕਸ਼ਨ-ਡੀ**

**ਧਰਮ ਸੰਬੰਧੀ ਆਧੁਨਿਕ ਮੁੱਦੇ**

1. ਧਰਮ ਅਤੇ ਸਮਾਜ ਦਾ ਸੰਬੰਧ
2. ਮਾਨਵਵਾਦ
3. ਵਿਸ਼ਵ-ਸ਼ਾਂਤੀ ਅਤੇ ਸਹਿਹੋਂਦ

### ਸੁਝਾਈਆਂ ਪੁਸਤਕਾਂ ਦੀ ਸੂਚੀ:

#### English:

1. Byron, Jevous Frank, *The History of Religion*, Orient, Delhi, 1985.
2. Harbans Singh & L.M.Joshi, *An Introduction to Indian Religions*, Punjabi University, Patiala, 1996.
3. James, E.O., *Begining of Religion*, Arrow Books, London. 1950.
4. Redin Paul, *Primitive Religion*, Dover Publication, New York, 1957.

#### Punjabi:

1. ਐਫ.ਮੈਕਸਮੂਲਰ, *ਧਰਮ ਦੀ ਉਤਪਤੀ ਅਤੇ ਵਿਕਾਸ*, ਅਨੁ. ਤਾਰਨ ਸਿੰਘ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2002.
2. ਸਿੱਧੂ, ਗੁਰਮੀਤ ਸਿੰਘ, *ਧਰਮ : ਆਧੁਨਿਕ ਅਤੇ ਉਤਰਆਧੁਨਿਕ ਸਿਧਾਂਤ*, ਗੁਰਗਿਆਨ ਬੁਕਸ, ਪਟਿਆਲਾ, 2014.
3. ਦਰਸ਼ਨ ਸਿੰਘ, *ਧਰਮ ਅਧਿਐਨ ਅਤੇ ਸਿੱਖ ਅਧਿਐਨ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2008.
4. ਮਨਜੀਤ ਸਿੰਘ, *ਧਰਮ ਦਰਸ਼ਨ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2007.
5. ਵਜ਼ੀਰ ਸਿੰਘ, *ਧਰਮ ਦਾ ਦਾਰਸ਼ਨਿਕ ਪੱਖ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 1999.
6. ਡਾ.ਹਰਪਾਲ ਸਿੰਘ ਪੰਨੂ, *ਭਾਰਤ ਦੇ ਪੁਰਾਤਨ ਧਰਮ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ

#### Hindi:

1. ਸਿਨਹਾ, ਹਰੇਂਦ੍ਰ ਪ੍ਰਸਾਦ, *ਧਰਮ ਦਰਸ਼ਨ ਕੀ ਰੂਪ ਰੇਖਾ*, ਮੋਤੀਲਾਲ ਬਨਾਰਸੀ ਦਾਸ, ਦਿੱਲੀ, 1965.

**SEMESTER-I****PHILOSOPHY****ELEMENTARY PHILOSOPHY****Time: 3 Hours****Max. Marks: 100****Lectures to be delivered: 6 per week****Pass Marks 35%****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. An Introduction to Philosophy: Definition, Meaning, Scope and Importance
2. Introduction to the Branches of Philosophy: Metaphysics, Epistemology, Aesthetics and Ethics.
3. Relation of Philosophy with Religion.

**SECTION-B**

1. Human Rights: Definition, Philosophical Perspectives and Scope
2. Social Problems: Casteism and Gender Discrimination.
3. World Peace: Problems and Solution.

**SECTION-C**

1. Guru Nanak: Sangat, Pangat and Sarbat da Bhala.
2. Vivekanand: Humanism.
3. M.K. Gandhi: Ahimsa and Satyagrah.

**SECTION-D**

1. Culture: Definition and Components
2. Civilization: Definition and Components.
3. Culture and Civilization: Relation and Differences and Tolerance Understanding

### Recommended Readings:-

#### English Books

1. Anand, Amaladass, *Introduction to Philosophy*, Satya Nilayam Publication, Chennai, 2001.
2. Chandra., U., *Human Rights*, Allahabad Law Agency, Allahabad. 2000.
3. Jacques, Martain, *An Introduction to Philosophy*, New York: Sheed & ward, London, 1962.
4. Lal, B.K., *Contemporary Indian Philosophy*, Motilal Banarsidas, Delhi, 1978.
5. Mackenzie, J.S., *Outlines of Social Philosophy*, Allen and Union, London, 1963.
6. Narvane, V.S., *Modern Indian Thought: A Philosophical Survey*, Asia, Bombay, 1967.
7. Robert and Beck, *Handbook of Social Philosophy*, 1969.
8. Teja Singh, *Sikhism; Its Ideals and Institutions*, Khalsa Brothers, Amritsar, 1970.
9. Titus, H.H., *Living Issues in Philosophy*, Eurasia, New Delhi, 1968.
10. Wingate, Alan, *Human Rights, Comment and Interpretation*, UNESCO, 1949.

#### Punjabi Books:-

1. ਸਹਿਰਾਈ, ਪਿਆਰਾ ਸਿੰਘ (ਸੰਪਾ.), *ਸਮਾਜਵਾਦ ਤੇ ਮਨੁੱਖੀ ਅਧਿਕਾਰ*, ਨਵਯੁੱਗ ਪਬਲਿਸ਼ਰਜ਼, ਦਿੱਲੀ।
2. ਖਲਿਆਬਿਚ.ਆਈ, *ਦਰਸ਼ਨ ਦੀ ਇਤਿਹਾਸ ਰੇਖਾ*, ਨਵਯੁੱਗ ਪਬਲਿਸ਼ਰਜ਼, ਦਿੱਲੀ।
3. ਗੁਰਜੀਤ ਸਿੰਘ, *ਸਭਿਆਚਾਰ ਦਾ ਫਲਸਫਾ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
4. ਜੋਸ਼ੀ, ਜੀਤ ਸਿੰਘ, *ਸਭਿਆਚਾਰ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ*, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਉਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।
5. ਵਜ਼ੀਰ ਸਿੰਘ, *ਫਲਸਫਾ ਤੇ ਸਿੱਖ ਫਲਸਫਾ*, ਮਦਾਨ ਪਬਲਿਸ਼ਰਜ਼, ਪਟਿਆਲਾ, 1980.

#### Hindi Books:-

1. ਗੋਤਮ, ਐਸ.ਪੀ. (ਡਾ.), *ਸਮਾਜ ਦਰਸ਼ਨ*, ਹਰਿਆਣਾ ਸਾਹਿਤ, ਅਕਾਦਮੀ, ਪੰਚਕੁਲਾ।
2. ਸਿਨਹਾ, ਹਿੰਮਤ ਸਿੰਘ (ਡਾ.), *ਸੰਸਕ੍ਰਿਤ ਦਰਸ਼ਨ*, ਹਰਿਆਣਾ ਸਾਹਿਤ ਅਕਾਦਮੀ, ਪੰਚਕੁਲਾ।

**ZOOLOGY**

**SEMESTER-I**

Paper	Maximum Marks		Hours of Teaching	
	Theory Marks	Practical Marks	Theory	Practical
ZOO-IA (Cell Biology)	35	—	3 Hrs	—
ZOO-IB (Biodiversity-I)	35	—	3 Hrs	—
PRACTICAL-I (RELATED TO ZOO-IA and ZOO-IB)	—	30	—	4½ Hrs

**SEMESTER-I****ZOOLOGY****ZOO-IA: CELL BIOLOGY  
(THEORY)****Max. Time: 3 Hrs.****Max Marks: 35****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Methods in Cell Biology.

- (a) Principles of light and phase contrast microscopy
- (b) Electron microscopy (TEM and SEM)
- (c) Fixation and fixatives
- (d) Staining techniques.

**SECTION-B**

Organization of Cell: Extra nuclear and nuclear, ultrastructure and functions of cell organelles

- (a) Plasma Membrane: Structure, osmosis, active and passive transport, endocytosis and exocytosis.
- (b) Endoplasmic reticulum: Structure, types and associated enzymes.
- (c) Mitochondria: Structure, mitochondrial enzymes and role of mitochondria in respiration and mitochondrial DNA.

**SECTION-C**

Organization of Cell:

- (a) Golgi complex: Structure and functions.
- (b) Ribosomes: Types of ribosomes, their structure and functions.
- (c) Lysosomes: Polymorphism and their function.
- (d) Centrosome: Structure and functions.

**SECTION-D**

Nucleus: Structure and functions of nuclear membrane, nucleolus and chromosomes.

An elementary idea of cell transformation in cancer.

An elementary idea of cellular basis of immunity.

**Suggested Readings:-**

1. Alberts, B., Bray, D., Lewis, J., Raff, M. Roberts, K., Watson J.D.(1998), Molecular Biology of the Cell, Garland Publ. Inc., New York.
2. Chandra Roy, S and DE Kumar, K. (2001), Cell Biology, New Central Book Agency (P) Ltd. Kolkata.
3. Cooper, G. M. (2004), The cell, A Molecular Approach, ASM press, Washington, D. C.
4. De Robertis, E.D.P. De Robertis, E.M.F.(1995) Cell Biology and Molecular Biology (Eighth Edition), W.B. Saunders Co., Philadelphia.
5. Karp, G. (1984). Cell Biology (4<sup>th</sup> ed), McGraw Hill, New York.
6. Pawar, C.B (1999), Cell Biology, Himalaya Publishing House, Bombay.

**SEMESTER-I****ZOOLOGY**

**ZOO-IB: BIODIVERSITY-I**  
**(PROTOZOA TO ANNELIDA)**  
**(THEORY)**

**Max. Time: 3 Hrs.****Max Marks: 35****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**Detailed Type study of the following animals****SECTION-A**

Protozoa: *Amoeba proteus*,  
*Paramecium caudatum* (with special reference to Kappa particles in *P. aurelia*)  
*Plasmodium vivax*. Introduction to Parasitic Protozoans.

**SECTION-B**

Parazoa (Porifera): *Sycon*,  
Cnidaria (Coelentrata): *Obelia*

**SECTION-C**

Platyhelminthes: *Fasciola hepatica*,  
*Taenia solium*  
Larvae of *Fasciola hepatica* and *Taenia solium*

**SECTION-D**

Aschelminthes: *Ascaris*, Parasitic adaptations in Helminthes  
Annelida: *Pheretima posthuma* (Earthworm)

**Suggested Readings:-**

1. Barnes, R.D. (1999), Invertebrate Zoology. W.B. Saunder, Philadelphia.
2. Dhama, P.S. & Dhama, J. K.(2001), Invertebrates, R. Chand & Co., New Delhi.
3. Barth, R. H. and Broshears, R. E (1982), The Invertebrate world. Holt Saunder, Japan.
4. Brusca, R. C. and Brusca, G. J. (2003), Invertebrates (2<sup>nd</sup> ed). Sinauer Associates, Inc. Publishers, Sunderland, Massachusetts.
5. Engemann, J. G. and Hegner, R. W. (1981), Invertebrate Zoology (3rd ed.) Macmillan, New York.
6. Gardiner, M. S. (1972), The Biology of Invertebrates, McGraw Hill, New York.
7. Meglitsch, P. A. and Schran, F. R. (1991), Invertebrate Zoology (3<sup>rd</sup> ed). Oxford University Press, New York.
8. Pechenik, A. Jan. (2000), Biology of the invertebrates, (4<sup>th</sup> ed), McGraw Hill Book Co. Singapore.

## SEMESTER-I

### ZOOLOGY

#### PRACTICAL-I (RELATED TO ZOO-IA and ZOO-IB)

Time: 3 Hrs.

Marks: 30

#### Important Note for Practical:-

1. Candidates will be required to submit their original note books containing record of their laboratory work.
2. Wherever possible, students must be taken out for excursion to the field (Zoological gardens, sea shores, ponds and hill stations etc.) to study habitat and ecology of the animals.
3. As per the latest UGC guidelines (D.O.No. F. 14-6/2014(CPP-II) dated 01-08-2014) the dissections should not be conducted. The guidelines on this issue are available on the UGC website: [www.ugc.ac.in](http://www.ugc.ac.in)

#### I. Classification up to orders with ecological notes and economic importance (if any) of the following animals (Through Specimens or slides):

**A. Protozoa.** *Amoeba*, *Euglena*, *Trypanosoma*, *Noctiluca*, *Eimeria*, *Monocystis*, *Paramecium*, *Opalina*, *Vorticella*, *Balantidium*, *Nyctotherus* and *Polystomella*.

**B. Parazoa.** *Sycon*, *Grantia*, *Euplectella*, *Hyalonema*, *Spongilla*, *Euspongia*.

**C. Cnidaria.** *Porpita*, *Velella*, *Physalia*, *Aurelia*, *Rhizostoma*, *Metridium*, *Millipora*, *Alcyonium*, *Tubipora*, *Zoanthus*, *Madrepora*, *Favia*, *Fungia* and *Astrangia*.

*Hydra* (W.M.), *Hydra* with buds, *Obelia* (colony and medusa), *Sertularia*, *Plumularia*, *Tubularia*, *Bougainvillea* and *Aurelia*

#### D. Platyhelminthes.

*Dugesia*, *Fasciola*, *Taenia*, *Echinococcus*.

Miracidium, Sporocyst, Redia, Cercaria of *Fasciola*, scolex and proglottids of *Taenia* (mature and gravid).

**E. Aschelminthes.** *Ascaris* (male and female), *Trichinella*, *Ancylostoma*.

**F. Annelida.** *Pheretima*, *Nereis*, *Heteronereis*, *Polynoe*, *Eunice*, *Aphrodite*, *Chaetopterus*, *Arenicola*, *Tubifex* and *Pontobdella*

**2. Study of the following permanent stained preparations:**

- A. L.S. and T.S. *Sycon*, gemmules, spicules and spongin fibers of a sponge.
- B. T.S. *Hydra* (Testis and ovary region)
- C. T.S. *Fasciola* (Different regions)
- D. T.S. *Ascaris* (Male and Female)
- E. T.S. *Pheretima* (pharyngeal and typhlosolar regions), Setae, septal nephridia, spermathecae and ovary of *Pheretima* (Earthworm).

**3. Preparation of the following slides:**

Temporary permanent preparation of freshwater Protozoan culture.

4. **Demonstration** of digestive, reproductive and nervous systems of earthworm with the help of charts/videos/models.

**5. Cell Biology:**

- A. Paper chromatography.
- B. Thin layers chromatography
- C. Gel electrophoresis through photographs or through research laboratories
- D. Familiarity with TEM & SEM.
- E. Study of different ultra structures of cell organelles through photographs.

**6. Visit to a vermi-composting unit and submission of report.**

**Note:- Some changes can be made in the practicals depending on the availability of material.**

**Guidelines for conduct of practical Examination:-**

1. Identify and classify the specimens upto order. Write a note on their habit, habitat, special features and economic importance. 6
2. Identify the slides/micrographs and give two reasons for identification. 6
3. Make a temporary mount of protozoa. 2
4. Draw a well labelled sketch of the given system of the organism and explain to the examiner. 5
5. Write down the theory and procedure of gel electrophoresis/ paper chromatography/thin layer chromatography/ SEM & TEM. 2
6. Report 5
7. Viva-voce & Practical file. 4

**SEMESTER-I  
MICROBIOLOGY**

**FUNDAMENTALS OF MICROBIOLOGY  
(THEORY)**

**Time: 3hrs**

**Max. Marks: 75**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

- 1. Introduction and Scope of Microbiology:** Discovery of microorganisms, history of microbiology, controversy over spontaneous origin or microorganisms, discovery of anaerobic life, germ theory of fermentation as life without oxygen, germ theory of disease.
- 2. Characterization and Identification of Microorganisms:** Place of microorganisms in living world, Hackel's and Whittaker's system of classification, prokaryotic and eukaryotic cells, characteristics of main groups of microorganisms.

**SECTION-B**

- 3. Methods in Microbiology :** Bright field microscopy and its applications, Methods of sterilization, preparation of a culture media, pure culture concept, staining techniques of bacteria such as simple, negative and differential methods.
- 4. Structure of Bacteria:** Fine structure of bacterial cell, cell wall, cell membrane, capsule, pili, flagella, ribosomes, Cytoplasmic inclusions, Bacterial movement, Endospore and physiology of endospore formation.

**SECTION-C**

- 5. Nutrition:** Nutritional requirements of microorganisms, nutritional types of bacteria, autotrophs, heterotrophs, parasites, types of culture media, differential media, and selective media enrichment media. Control of microorganisms by physical, chemical and chemotherapeutic agents.
- 6. Reproduction and Growth in Microorganisms:** Modes of cell division, growth curve of bacteria, continuous culture, synchronous growth, quantitative measurement of bacterial growth, Effect of various factors on growth of bacteria.

**SECTION-D**

- 7. Reproduction and Growth in Microorganisms:** Modes of cell division, growth curve of bacteria, continuous, culture, synchronous growth, quantitative measurement of bacterial growth effect of various factors on growth of bacteria, DNA as genetic material.
- 8. Clinical Microbiology:** Epidemiology reservoirs and modes of transmission of infectious diseases. Pathogenesis, diagnosis and treatment of common bacterial and viral diseases in humans.

**Books Recommended:-**

1. Pelczar, M.I., Chan, E.C.S. and Krieg, N.R. 1993, Microbiology. Tata McGraw Hill Publishing Co., Ltd., New Delhi.
2. Stanier, R.Y., Ingraham, J.L., Wheelis, M.L. and Painter, P.R. 1986, General Microbiology, MacMillan Education Ltd. Publisher.
3. Powar, C.B. and Dagniwala, H.F. 1992, General Microbiology, Volume I and II, Himalaya Publishing House, Delhi.
4. Sharma, P.D. 1997, Microbiology, Rastogi Publications, Meerut.

**SEMESTER-I****MICROBIOLOGY****(PRACTICAL)****Time: 4 Hours****Marks: 25**

1. To study the essentials of a Microbiology laboratory.
2. To study various parts of a laboratory microscope.
3. To study various sterilization techniques.
4. To prepare the cultures media for the cultivation of various micro-organisms.
5. To study various laboratory techniques for the cultivation and isolation of pure cultures of microorganisms.
6. To perform the simple staining of bacterial cell.
7. To perform the differential staining of bacterial cell.
8. To study the typical growth curve of bacteria.

**SEMESTER-I****INDUSTRIAL MICROBIOLOGY (VOCATIONAL)****INTRODUCTION TO MICROBIOLOGY  
(THEORY)****Time: 3hrs****Max. Marks: 75****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Introduction and scope of microbiology: Historical background of Microbiology (In brief). Difference between prokaryotic and eukaryotic microorganisms.
2. Methods in Microbiology. Bright field microscopy and its application in Microbiology, Methods of sterilization, concept of media and its preparation i.e. broth, solid and semisolid, Staining of bacteria Simple and Gram's staining to differentiate G(+) and (G-) bacteria. Isolation of pure cultures using techniques like pour plating, streaking, spreading and serial dilution. Maintenance and preservation of cultures and culture collections.

**SECTION-B**

3. Morphology and basic structure of bacteria, Fungi and Virus. Life cycle of bacteria, yeast, fungi and virus.
4. Reproduction and growth in microorganisms, Mode of cell division, Growth Curve of bacteria, continuous and synchronous culture, Quantitative measurement of bacterial growth, Effect of various factors on growth of bacteria. Control of microorganisms by physical methods.

**SECTION-C**

5. Basic concepts of microbial genetics (In brief). Structure of DNA, RNA and protein, replication, transcription and translation. Concept of gene and mutations.

**SECTION-D**

6. Clinical microbiology: Epidemiology, reservoirs and mode of transmission of infectious diseases. Pathogenesis, diagnosis and treatment of common bacterial and viral diseases in man.

**Books Recommended:-**

1. Pelczar, M.I., Cham, E.C.S. and Krieg, N.R. 1993, Microbiology. Tata McGraw Hill Publishing Co., Ltd., New Delhi.
2. Stanier, R.Y., Ingraham, J.L., Wheelis, M.L. and Painter, P.R. 1986, General Microbiology, MacMillan Education Ltd. Publisher.
3. Powar, C.B. and Dagniwala, H.F. 1992, General Microbiology, Volume I and II, Himalaya Publishing House, Delhi.
4. Sharma, P.D. 1997, Microbiology, Rastogi Publications, Meerut.

**SEMESTER-I****INDUSTRIAL MICROBIOLOGY (VOCATIONAL)  
(PRACTICAL)****Time: 4 Hours****Marks: 25**

1. To study the essential of a Microbiology laboratory.
2. To study various part of a laboratory microscope.
3. To study various sterilization techniques.
4. To prepare the culture media for the cultivation of various micro-organisms.
5. To study various laboratory techniques for the cultivation and isolation of pure culture of micro-organisms.
6. To perform simple staining of bacterial cell.
7. To perform the differential staining of bacterial cell.

**SEMESTER-I****MICROBIAL & FOOD TECHNOLOGY****FUNDAMENTALS OF MICROBIOLOGY  
(THEORY)****Time: 3hrs****Max. Marks: 75****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**Introduction and Scope of Microbiology:** Discovery of Microorganism, history of microbiology, controversy over spontaneous origin or micro-organism, discovery of anaerobic life, germ theory of fermentation, fermentation as life without oxygen, germ theory of disease. Differences between prokaryotic and Eukaryotic cells, characteristics of main groups of microorganism (Bacteria, fungi, yeast, Virus).

**SECTION-B**

**Methods in Microbiology:** Bright field microscopy and its application in Microbiology, Methods of sterilization, preparation of a culture media, pure culture concept, staining of bacteria.

**Structure of Bacteria:** Cell wall, cell members, capsule, pili, flagella, bacterial movement, endospore.

**SECTION-C**

**Nutrition:** Nutritional requirements of Microorganisms, nutritional types of bacteria, autotrophs, heterotrophs, parasites, types of culture media, differential media, and selective media, enriched media.

**Reproduction and Growth in Microorganisms:** Modes of cell division, growth curve of bacteria, continuous culture, synchronous growth, quantitative measurement of bacterial growth, effect of various factors on growth of bacteria.

**SECTION-D**

Mutations and their chemical basis, DNA as genetic material, recombination in prokaryotes by transformation and conjugation transduction, bacterial plasmids.

**Control of Micro-organisms:** Control of micro-organisms by physical, chemical and chemotherapeutic agents.

**Books Recommended:-**

1. Pelczar, M.I., Chan, E.C.S. and Krieg, N.R. 1993. Microbiology. Tata McGraw Hill Publishing Col. Ltd., New Delhi.
2. Stanier, R.Y., Ingraham, J.L., Wheels, M.L. and Painter, P.R. 1986. General Microbiology, MacMillan Education Ltd. Publisher.
3. Power, C.B. and Dagniwala, H.F. 1992, General Microbiology, Volume I and II. Himalaya Publishing House, Delhi.
4. Sharma, P.D. 1997. Microbiology, Rastogi Publications, Meerut.

**SEMESTER-I****MICROBIAL & FOOD TECHNOLOGY****FUNDAMENTAL AND FOOD MICROBIOLOGY  
(PRACTICAL)****Time: 4 Hours****Marks: 25**

1. To study the essential of a Microbiology laboratory.
2. To study various part of a laboratory microscope.
3. To study various sterilization techniques.
4. To prepare the culture media for the cultivation of various micro-organisms.
5. To study various laboratory techniques for the cultivation and isolation of pure culture of micro-organisms.
6. To perform simple staining of bacterial cell.
7. To perform the differential staining of bacterial cell.

## SEMESTER-I

### BOTANY

#### PAPER-I A: DIVERSITY OF MICROBES (THEORY)

**Time: 3 Hrs.**

**Theory Lectures: 3 Hours/Week**

**Max. Marks: 35**

#### **Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

#### SECTION-A

**Algae:** General characters, classification and economic importance, important features and life history of Chlorophyceae–Volvox, Oedogonium, Coleochaete, Xanthophyceae–Vaucheria; Phaeophyceae–Ectocarpus, Sargassum; Rhodophyceae–Polysiphonia.

#### SECTION-B

**Viruses, Bacteria,** General account of viruses and mycoplasma; bacteria–structure, nutrition, reproduction and economic importance; general account cyanobacteria. General characters.

#### SECTION-C

**Classification and Economic Importance of Fungi.** Important features and life history of Mastigomycotina–Pythium, Phytophthora; Zygomycotina–Mucor, Ascomycotina–accharomyces, Eurotium, Chaetomium. Peziza;

#### SECTION-D

**Basidiomycotina**–Puccinia, Agaricus;  
Deuteromycotina–Cercospora. Colletotrichum  
General account of Lichens

#### **Suggested Readings:-**

1. Alexopoulos, C.J., Mims, C.W. and Blackwell, M. Introductory Mycology (4th Edition), Wiley - Blackwell, USA.
2. Dube, H.C., 2007, A Textbook of Fungi, Bacteria and Viruses (3rd edition), Scientific Publishers, India
3. Dube, H.C., 2012, An Introduction to Fungi (4th edition), Scientific Publishers., India.
4. James W. Brown. (2014). Principles of Microbial Diversity. ASM press, USA.
5. Ogunseitan, O. (2004). Microbial Diversity: Form and function in Prokaryotes. Wiley Publishers, USA.
6. Sharma, O.P., 2004, Text Book of Thallophytes. McGraw Hill Publishing Co., India.
7. Sharma, P.D., 2004, The Fungi, (2nd Edition) Rastogi Publication, India

**SEMESTER-I**  
**BOTANY**  
**PAPER-I B: DIVERSITY OF CRYPTOGAMS**  
**(THEORY)**

**Time: 3 Hrs.**

**Marks: 35**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**Bryophyta:** Amphibians of plants kingdom displaying alternation of generations; structure, reproduction

**SECTION-B**

**Classification of Hepaticopsida** (e.g. Marchantia); **Anthocerotopsida** (e.g. Anthoceros), **Bryopsida** (e.g. Funaria).

**SECTION-C**

**Pteridophyta:** The first vascular plant; important characteristics of Psilopsida, Lycopsida, Sphenopsida and Pteropsida; structure, reproduction in Rhynia,

**SECTION-D**

Lycopodium, Selaginella. Equisetum, Pteris and Marsilea.

**Suggested Readings:-**

1. Goffinet B. (2008). Bryophyte Biology. Cambridge University Press, UK.
2. Sambamurty, S.S. (2005). A Textbook of Bryophytes, Pteridophytes, Gymnosperms and
3. Paleobotany. I K International Publishing House Pvt Ltd., India
4. Sharma, O.P. (2014). Bryophyta. Mc Graw Hill Education Pvt Ltd., India.

**SEMESTER-I****BOTANY PRACTICALS-I (BASED ON PAPER-IA AND IB)****Practical Hours: 4½ Hours/week****Marks: 30****Suggested Laboratory Exercises:-**

Teachers may select plants/material available in their locality/institution

1. Gram staining of bacteria.
2. Observation of disease symptoms in hosts infected by fungi, viruses and mycoplasma Section cutting of diseased material and identification of the pathogens as per the theory syllabus.
3. Study of the genera included under algae and fungi.
4. Study of morphology, reproductive structures and anatomy of the examples cited in theory under Bryophyta and Pteridophyta.

**Suggested Readings:** Lee, R.E. (2008). Phycology, Fourth Edition, Cambridge University Press, USA. Agrios, G.N. (1997). Plant Pathology, 4th edition, Academic Press, U.K.

**SEMESTER-I****BIOINFORMATICS (VOCATIONAL)****FUNDAMENTALS OF COMPUTERS, MOLECULAR BIOLOGY  
& rDNA TECHNOLOGY  
(THEORY)****Time: 3 Hrs.****Credit Hours: 6****Max. Marks: 100****Theory Marks: 75****Practical Marks: 25****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A****History of Computers:** Evolution, Generation of Computers (I, II, III, IV, V)**Classification of Computers:** Notebook, Personal, Mainframe, Minicomputers, Workstation and Supercomputers)-comparison with memory, power, cost, size-then and now.**Computer Organization and Architecture:** Computer Architecture, I/O Devices, ALU, Memory chips (RAM, ROM, DRAM), Storage devices, Memory hierarchy.**MS-Word:** Introduction to parts of Window, Creating, Opening, Saving and Printing a Document, Text formatting, Page Setup, Margins, Line spacing, Page break, Header and Footers, Spell Checking, Table, Mail Merge.**MS-Power Point:** Introduction Power Point Elements, Creating, opening, saving of Power Point slide, Adding text and title, moving and resizing text, text formatting (using Bullets, font style, font size, color and effects) custom animation, slide transition, insert pictures and sound file to slide.**MS-Excel:** Introduction, format of electronic worksheet, adding data in worksheet, cell Addressing Ranges, applying and copying formula, various mathematical and statistical functions, Inserting charts.**SECTION-B****Computer Networking:** OSI reference model, Network Topologies, Router, Switch, LAN, WAN, MAN, Wireless LAN and Mobile Computing, TCP/IP protocol.**Internet:** Introduction to Internet, World Wide Web, Concepts of Domain, Concept of Web Browser, Concept of Intranet and Extranet, Computer network and security**Internet Services and Applications:** Internet Tools. Telnet, FTP, E-Mail, Chat, newsgroups,**HTML:** Introduction, common tags, creating hyper links, incorporation of images, Tables; Frames, Formatting of text with fonts.

### SECTION-C

**Introduction to Molecular Biology:** Structure and properties of Nucleic acids: (DNA, RNA), Organization of DNA in chromosome in (Prokaryotes and Eukaryotes), Heterochromatin/Euchromatin, Repetitive sequences.

**Proteins:** Amino acids and their properties; Primary, secondary, tertiary and quaternary structures.

**DNA Replication:** Mechanisms of prokaryotic and Eukaryotic DNA replication,

**Expression of the Genome:** Mechanisms of Transcription (Prokaryotes and Eukaryotes), RNA processing (Capping, Polyadenylation, splicing), Translation (The Genetic Code and Protein Synthesis).

### SECTION-D

**Gene Regulation:** Principles of gene regulation, regulation of gene expression in bacteria (Lactose operon, Tryptophan operon), regulation of gene expression in eukaryotes.

**rDNA Technology:** Restriction digestion, Ligation, Plasmid and Lambda Vectors, PCR, Cloning etc, Genetic engineering and transgenic organisms. DNA sequencing methods. Concepts of Mapping, Construction of physical maps, Genetic maps and radiation hybrid maps etc.

### Recommended Books:-

1. Norton's P. (2001). Introduction to Computing Fundamental. *McGraw Hill Education, New Delhi.*
2. Sinha P.K. (2001). Fundamental of Computers. *BPB Publication, New Delhi.*
3. Deborah S. Ray, Eric J. Ray (2002) Mastering HTML and XHTML, Sybex Inc.
4. HTML Complete, 3rd Edition (2003), Sybex Inc.
5. Kapila H. (2003). PC Computing Window Based Computer System. *Dinesh Publishers, Jalandhar.*
6. Grauer B. (2005). Exploring Microsoft Office 2003 (Volume 1). *Prentice Hall, New Jersey.*
7. Norton's P. (2001). Introduction to Computing Fundamental. *McGraw Hill Education, New Delhi.*
8. Sinha P.K. (2001). Fundamental of Computers. *BPB Publication, New Delhi.*
9. Brooker, R.J. Genetic Analysis and Principles. Addison Wisely Longman, N.Y. (2001).
10. Pevzner, J. Introduction to Bioinformatics. John Wiley and Sons, N.Y. (2003).
11. Baxevanis A.D. Bioinformatics: A practical guide to the analysis of Gene and Proteins (2nd Edition) 2001.
12. Lodish H, Berk A, Zipursky, S.L., Baltimore, D. Darnel, J. Molecular Cell Biology. W.H. Freeman and Company, USA (2000).
13. Lesk A. M. (2002). Introduction to Bioinformatics. *Oxford University Press.*
14. Krane D. E. and Raymer M. L. (2002). Fundamental Concepts of Bioinformatics. *Benjamin Cummings.*
15. Lehninger, A.L. Nelson, DL and Cox, MM (2008). Principles of Biochemistry, 5<sup>th</sup> Ed., *Worth Publishers, New York.*
16. Benjamin. E (2004). Immunology, *Willey and Liss, New York.*
17. Kubey, J and Goldby, R.A. (2003). Immunology Freeman and Co., *New York.*
18. De Roberties, E.D and De Roberties, E.M (1987). Cell and Molecular Biology, 8<sup>th</sup> Ed, *Lippincott Williams and Wilkins Publication.*

**SEMESTER-I****BIOINFORMATICS (VOCATIONAL)****(LAB IN COMPUTER FUNDAMENTALS)****(PRACTICAL)****Time: 3 Hrs.****Marks: 25****Credit Hours: 4½****MS-WORD**

1. To create, open, close a document and toolbar operations.
2. Practical to demonstrate formatting options
3. Practical based on page setup, print a document.
4. To add headers, footer, pagebreak.
5. Table handling, Mail Merge.

**MS-POWERPOINT**

1. Concept of slide, presentation, custom animation.
2. To insert pictures and sound file to slide.  
Slide transition.

**MS-EXCEL**

1. To create, open, close worksheet.
2. To add numeric as well as character data in a cell.
3. To develop formulas, create and modify charts.

**Installation of Windows and LINUX****Basic commands of LINUX.****Basic DOS commands.****Basic Exercises on HTML.**

**SEMESTER-I**

**BIOTECHNOLOGY (VOCATIONAL)**

**MICROBIOLOGY  
(THEORY)**

**Time: 3 Hours**  
**Credit Hours: 6**

**Max. Marks: 100**  
**Theory Marks: 75**  
**Practical Marks: 25**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Development of microscopy (optical, TEM and SEM); Pasteur's experiments disproving spontaneous generation; The concept of sterilization. Methods of Sterilization (Dry heat, wet heat, radiation, chemical and filtration etc.)

**SECTION-B**

Concept of microbial species and strains; The various forms of microorganisms-PPLOs-cocci, bacilli and spirilla; Spontaneous and induced variation arising in microbial population; Nature of the microbial cell surface. Gram positive and gram negative bacteria. Kinds of flagella. Serotypes; Prokaryotic and eukarotic microbial cells.

**SECTION-C**

Nutritional classification of microorganisms; Microbes in extreme environments–the thermophiles and alkalophiles; Pathogenic microorganisms. Defence mechanism against microorganisms; Symbiosis and antibiosis among microbial populations; N<sub>2</sub>-fixing microbes in agriculture.

**SECTION-D**

Microbial metabolism; Fermentation products; A survey of products from micro-organisms; Strain improvement by enrichment, selection and recombinant DNA methods; Production of heterologous proteins of interest in micro-organisms.

**Books Recommended:**

1. Davis, B.D. Dulbecco. R., Eisen, H.N. and Ginsberg, H.S. (1990), Microbiology: 4th Edition, Harper & Row, Publishers. Singapore.
2. Tortora, G.J., Funke, B.R. and Case, C.L. (1994), Microbiology: An Introduction: 5th Edition, The Benjamin / Cummings Publishing Company, Inc.
3. Stanier, R.Y. (1995), General Microbiology, MacMillan Press, London.
4. Pelezar, M.T. (1995), Microbiology, Tata McGraw Hill Publication, New Delhi.
5. Schlegel, H.G. (1995), General Microbiology, 7th Edition, Cambridge Univ. Press.
6. Prescott and Dunn (1999), Industrial Microbiology, 4th Edition. By S.K. Jain for CBS Publishers & Distributors.
7. Purohit, S.S. (2000), Microbiology; Fundamentals and Applications (6th Edition), Agrobios (India).
8. Postage, J. (2000), Microbes & Man, 4th Edition, Cambridge Univ. Press.
9. Tortora, G.J., Funke, B.R., 2001, Microbiology: An Introduction, Benjamin Cummings.

**SEMESTER-I****BIOTECHNOLOGY (VOCATIONAL)****MICROBIOLOGY  
(PRACTICAL)****Time: 3 Hours****Marks: 25****Microbiological Techniques**

Aseptic techniques

Cleaning of glassware

Preparation of media, cotton-plugging and sterilization

Personal hygiene-Microbes from hands, tooth-scum and other body parts.

Isolation of microorganisms from air, water and soil samples.

Dilution and pour plating. Colony purification.

Enumeration of micro-organisms. Total vs. viable counts.

Identification of isolated bacteria. Gram staining, other staining methods, metabolic characterization (e.g. IMViC test)

Growth curve of microorganisms.

Antibiotic sensitivity of microbes, use of antibiotic discs.

Testing of water quality.

One step growth of bacteriophage.

Alcoholic and mixed-acid fermentation

**Book Recommended:**

Cappucin J.G. and Sherman, N. (1992), Microbiology: A Laboratory Manual, 3rd edition, Benjamin/Cummings Publishing Company, Inc.

**SEMESTER-I**  
**EDUCATION**  
**FOUNDATIONS OF EDUCATION**

**Time: 3 Hours**

**Max. Marks: 100**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**Note:** The paper setter may set each question in 2/4 parts to ensure maximum representation of the syllabus.

**SECTION-A**

1. Meaning , nature , functions & scope of Education
2. Types of Education- Formal, Informal & Non-formal

**SECTION-B**

1. Analysis of concepts of Education – Schooling, Training & Indoctrination
2. Meaning, need & importance of aims & objectives of Education

**SECTION-C**

1. Individual Vs Social, Liberal Vs Vocational aims of Education & their synthesis
2. Aims & objectives of Education as recommended by Secondary Education Commission (1952-53) and Indian Education Commission (1964-66)

**SECTION-D**

1. Aims of Education as recommended by NPE (1986)
2. Aims of Education for Modern Indian Society in the context of globalization

**Books Recommended:-**

- |                       |  |
|-----------------------|--|
| 1. Bhatia and Narang  | Philosophical & Sociological Foundations Education Doaba House, New Delhi, 1992.           |
| 2. Bhatia and Narang  | Theory & Principles of Education, Parkash Brothers, Ludhiana, 1986.                        |
| 3. Govt. of India     | Ministry Report of Secondary Education Commission (1952–53).                               |
| 4. Prasad and Chandra | Sociological Foundations of Education, Deepak KSK Publishers, Delhi, 2006.                 |
| 5. Sodhi, T.S.        | Philosophical and Sociological Foundations of Education, Bawa Publications, Patiala, 2007. |
| 6. Taneja, V.R.       | Foundation of Education, Chandigarh, Mahindra Capital, Punjab, 2006.                       |
| 7. Taneja. V.R.       | Socio-Philosophical Approach to Education, Delhi : Atlantic Publishers, 1983               |

## SEMESTER-I

### HUMAN RIGHTS

#### CONCEPTUAL UNDERSTANDING OF HUMAN RIGHTS

**Time: 3 Hours**

**Max. Marks: 100**

#### **Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**Note:** The paper setter may set each question in 2/4 parts to ensure maximum representation of the syllabus.

#### SECTION-A

Emergence of human rights in society from ancient to the modern times.

#### SECTION-B

Basic Concepts: Individual, group, state, civil society, freedom, equality, justice, violence, counter violence.

#### SECTION-C

Universal Declaration of human rights (1948); international conventions on civil and political; rights, social, economic and cultural rights and responsibilities.

#### SECTION-D

Constitutional vision of fundamental rights, directive principles and fundamental duties.

#### **Recommended Books:-**

1. Kashyap, Subhash, Human Rights and Parliament, Metropolitan Book Co. Delhi.
2. Sinha, P.C. Global sourcebook on Human Rights Part-I, Kanishka Publishers, New Delhi.
3. Sinha, P.C., Global source book on Human Rights Part-II, Kanishka Publishers, New Delhi.
4. Singh, Nagender, Human Rights and International Conventions, S. Chand, New Delhi.
5. Sharma, N.R. Human Rights in the World, Pointer Publishers, New Delhi.
6. Desai, A.R. (ed.), (1986), Violations of Democratic Rights in India, Bombay: Popular Prakashan.
7. Dikshit, R.C., (1998), Human Rights and the Law, Universal and Indian, New Delhi: Deep and Deep.
8. Mehta, P. L. and Neena Verma, (1995), Human Rights Under the Indian Constitutions, New Delhi: Deep and Deep Publications.

**SEMESTER-I**

**DAIRY FARMING (VOCATIONAL)  
(THEORY)**

**Time: 3 Hours**

**Max. Marks: 100  
Theory Marks: 50  
Practical Marks: 50**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

**General**

Advantages and constraints in dairy farming. Importance of livestock in agriculture and its relation to national economy.

**SECTION-B**

Livestock census, Milk production in Punjab, India, Per capita consumption of milk in Punjab and India as compared to some western countries.

**SECTION-C**

**Breeds**

**Important Breeds of Different Livestock Species, Their Origin, Morphological Traits and Economic Traits:**

- i) Indigenous cattle i.e. Sahiwal, Haryana, Red Sindhi.
- ii) Exotic cattle, i.e. Holstein Friesian, Jersey, Red Dane, Brownswiss, Ayrshire and Guernsey.
- iii) Buffaloes breeds, i.e. Murrah, Nilli Ravi, Surti, Mehsana.
- iv) Milch type goat breeds (both Indian and Exotic)

**SECTION-D**

**Housing**

Location of dairy farm, grouping of different farm buildings. Sanitation, drainage in cattle sheds, disinfections of sheds. Heat stress. Methods of cooling in sheds. Supply of clean and fresh water.

**(PRACTICAL)**

**Time: 3 Hours.**

**Marks: 50**

**Note:** Preparation of practical note book and weekly write-ups of daily jobs assigned is compulsory.

1. Visits to Dairy farms having machine milking, fodder harvesting, feed mixing etc., Veterinary hospitals, Milk collection centre and milk plant. Visit and working study of Milk Producers Co-operative Society.
2. External body parts of Cow and Buffalo.
3. Identification of various breeds of Cows and Buffaloes.
4. Differentiation between 'Desi' and Crossbreed Cow and their calves.

**SEMESTER-I****RSL101****RUSSIAN****PAPER-I (APPLIED GRAMMAR & COMPREHENSION)****Time Allowed: 3 Hrs.****M. M.: 40****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Grammar (all topics in the textbook to be covered)

**SECTION-B**

2. Comprehension

**SECTION-C**

3. Simple questions of general interest on Russia.

**SECTION-D**

4. Composition of a dialogue on a given situation.

**SEMESTER-I**

**RUSSIAN**  
**PAPER-II (WRITTEN EXPRESSION & TRANSLATION)**

**Time allowed: 3 Hrs.****M.M.: 40****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Translation from English into Russian (Simple sentences)

**SECTION-B**

2. Translation from Russian into English/Hindi/Punjabi (Simple sentences)

**SECTION-C**

3. Paragraph of about 100 words. (one out of three topics) e. g. My friend, My family, Our Classroom, Our teacher, About myself, My neighbour, My city.

**SECTION-D**

4. General questions pertaining to day to day life situations.

**Note: Glossary of difficult words may be given for translation purpose in the question paper.**

**PAPER-III (ORAL)****Time allowed: 3 Hrs.****M.M.: 20**

- |                       |           |
|-----------------------|-----------|
| - Reading of a text   | <b>05</b> |
| - Dictation           | <b>05</b> |
| - Simple conversation | <b>10</b> |

**Prescribed Textbook:**

“RUSSIAN” – by Wagner V.N. & Ovsienko Y.G. (Lessons 1 - 12)

**Supplementary Reading:**

1. A.K. Maurya: ESSENTIAL RUSSIAN, University of Delhi, 2004.
2. S Khavronina: Russian in Exercise, 1978.
3. I. Pulkina: RUSSIAN A Practical Grammar with Exercise. Russky Yazik. Pub. H. Moscow.
4. Dictionaries: English - Russian dictionary. Russian - English Dictionary.

**SEMESTER-I****FRL-101****FRENCH****PAPER-I (COMPREHENSION & COMPOSITION)****Time allowed: 3 Hrs.****M. M.: 40****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Questions of general comprehension related to the text.  
e.g.:- Qu'est- ce que vous faites le dimanche ?;Ou apprenez – vous le français?

**SECTION-B**

2. Questions on comprehension of an unseen passage

**SECTION-C**

3. Composition of dialogue of one of three topics covered in the text book.

**SECTION-D**

4. Simple questions of general interest on French civilisation pertaining to the text. (Questions on important cities, regions, mountains, Monuments, rivers, National day, National Flag, National Song, Cuisine etc.  
These questions are to be asked in the form of fill in the blanks or multiple choice questions.

**SEMESTER-I****FRENCH  
PAPER-II (TRANSLATION & GRAMMAR)****Time allowed: 3 Hrs.****M. M.: 40****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Translation of a simple unseen passage or short sentences from English into French.

**SECTION-B**

2. Translation of a simple unseen passage or short sentences from French into English.

**SECTION-C**

3. Questions on applied grammar pertaining to the topics covered in the textbook.

**SECTION-D**

4. Questions on applied grammar pertaining to the topics covered in the textbook.

**NOTE: Glossary of difficult words may be given for translation purpose in the question**

**SEMESTER-I**

**FRENCH  
PAPER-III (ORAL)**

**Time allowed: 3 Hrs.**

**M. M.: 20**

- Reading of a text	<b>05</b>
- Dictation	<b>05</b>
- Simple conversation	<b>05</b>
- Oral Comprehension	<b>05</b>

**Prescribed Book: “CONNEXIONS-1”** by Regine Merieux & Yves Loiseau, Published by Didier  
(UNIT 1-6) **Recommended Books: Nouveau Sans Frontières 1** by Philippe Dominique & Jacky  
Girardet. Collins et Robert pocket dictionary. Le nouveau Bescherelle Part I.

**SEMESTER-I****URDU****URL101****Prose and Poetry****Time: 3 Hours****Max. Marks: 100****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**Courses of Study****SECTION-A**

Translation of Prose passages

**SECTION-B**

Explanation of verses

**SECTION-C**

- a) Summary of a poem
- b) Summary of a lesson

**SECTION-D**

Direct Questions on Poets and writers studied

**Book Prescribed:-****Urdu Nisab Part II**, Published by M/S Educational Book House A.M.U. Market, Aligarh-2

**SEMESTER-I**

**PERSIAN**

**PRL101:**

**PROSE AND POETRY**

**Time: 3 Hours**

**Max. Marks: 100**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**Courses of Study**

**Books Prescribed:-**

Farsi-O-Dastur Part – II by Dr. Zehra Khanlari,  
Published by Idara Adabiyat, 5803- Sadar Bazaar, Delhi-6  
Following lessons are included in syllabus:  
1,2,11,20,26,27,29,30,32,33,38,39,47,49 and 50.

**SECTION-A**

Passages for Translation

**SECTION-B**

Stanzas for explanation

**SECTION-C**

Theme/ Summary/ central Idea of a Poem or Lesson

**SECTION-D**

Questions on life and works of poets studied

**Books Recommended:**

1. Sher-ul-Ajam, Part-I, Pages-30-36 and 144-152.), Anjuman Tarrigi, Urdu Hindi, Delhi.
2. Sher-ul-Ajam, Part-II, (Pages-212-298.), Anjuman Tarrigi Urdu, Jama Masjid, Delhi- 6.
3. Tarikh-e-Adabiyat-e-Iran by Raza Zada Shafaq, Tr.By Mubariz-ud-din Rif'at, Edara Musannifin, hyderabad. 1998, age-87-95 and 150-157)
4. Tarikh-e-Islam by Akbar Shah khan Najibabadi, Part-II, (Pages-362-380) Edara Musannifin, Azamgarh
5. Subak Shinasi Part-II, By Malik-ush-Sho'ara Bahar (pages-124-126)
6. Gulistan-e-Sa'di. Anjuman Tarrigi Urdu, Jama Masjid, Delhi, 110006.
7. Qabus Nameh. Anjuman Tarrigi Urdu, Jama Masjid, Delhi- 06
8. Marzban Nameh. Anjuman Tarrigi Urdu, Jama Masjid, Delhi, 110006.
9. A literary History of Persia, Vol. I, By E. G. Brown - (Pages-275-289 & Vol. II, (Page-489)

**SEMESTER-I**

**HINDI (ELECTIVE)**

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**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

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काव्य पथ: संपादक— डॉ. सुधा जितेन्द्र, प्रकाशक— गुरु नानक देव यूनिवर्सिटी, अमृतसर, 8 कवि रखे गए हैं।  
1 से 7 और 9।

I D' ku&ch

आदर्श हिन्दी व्याकरण तथा सैद्धांतिकी : डॉ. एच.एम.एल. सूद, वागीश प्रकाशन, जालंधर। हिन्दी व्यावहारिक व्याकरण पुस्तक भी निर्धारित की गयी हैं।

(क) संज्ञा, सर्वनाम, विशेषण, क्रिया (केवल व्यावहारिक पक्ष)

I D' ku&l h

अनुवाद: अर्थ और उपयोगिता, पत्र का सामान्य परिचय और प्रकार (केवलसैद्धांतिक पक्ष)

I D' ku&Mh

अनुवाद: शब्दावली (संलग्न), पत्रलेखन: पारिवारिक, शैक्षिक, प्रार्थनापत्र, निमंत्रण पत्र (केवल व्यावहारिक पक्ष)

vupkn | carkh | kekl; 'kcnkoyh

S.No.		
1.	Advertisement	विज्ञापन
2.	Academic	शैक्षणिक
3.	Attached	संलग्न
4.	Administration	प्रशासन
5.	Action	कार्यवाही
6.	Balance	संतुलन
7.	Acceptance	स्वीकृति
8.	Assurance	आश्वासन
9.	Bond	बंध पत्र / शपथ पत्र
10.	Bonafide	वास्तविक
11.	Board	मण्डल / परिषद्
12.	Capacity	क्षमता
13.	Confidential	गोपनीय
14.	Correspondence	पत्र व्यवहार / पत्राचार
15.	Communication	संचार
16.	Corporation	निगम
17.	Commission	आयोग
18.	Census	जनगणना
19.	Consumer	उपभोक्ता
20.	Constitution	संविधान
21.	Casual Leave	आकस्मिक अवकाश
22.	Democracy	लोकतंत्र / प्रजातंत्र
23.	Document	दस्तावेज
24.	Enrollment	नामांकन
25.	Estimate	आकलन
26.	Faculty	विभाग / संकाय
27.	Forwarded	अग्रसारित
28.	Governor	राज्यपाल
29.	Honorary	अवैतनिक
30.	Homage	श्रद्धांजलि
31.	Honorable	माननीय
32.	Illegal	अवैध
33.	Incharge	प्रभारी
34.	Initiative	पहल
35.	Inauguration	उद्घाटन
36.	Increment	वेतनवृद्धि
37.	Inspection	निरीक्षण
38.	Interference	हस्तक्षेप
39.	Joint	संयुक्त
40.	Junior	कनिष्ठ

B.A./B.Sc. (Semester System) (12+3 System of Education) (*Semester-I*) (*Session 2018-19*)  
(*Faculty of Languages*)

41.	Majority	बहुमत / बहुसंख्यक
42.	Minor	नाबालिग
43.	Member of Parliament	संसद सदस्य
44.	Neutral	तटस्थ
45.	Notification	अधिसूचना
46.	Original	मौलिक
47.	Option	विकल्प
48.	Provident Fund	भविष्य निधि
49.	Ratio	अनुपात
50.	Registration	पंजीयन
51.	Revision	पुनरीक्षण
52.	Superintendent	अधीक्षक
53.	Secretary	सचिव
54.	Training	प्रशिक्षण
55.	Transfer	स्थानांतरण
56.	Vacancy	रिक्त स्थान
57.	witness	साक्ष्य / गवाह
58.	Zonal	क्षेत्रीय
59.	Uniformity	एकरूपता
60.	Unavoidable	अपरिहार्य

**SEMESTER-I**  
**Functional Hindi (Vocational)**  
fglUnh QD' kuy %kds' kuy½

fglUnh dk i z ksxkRed 0; kdj.k vkj i z kstuewyd fglUnh o i fjHkkf"kd 'kCnkoyh

I e; % 3 ?k&/s

i w kkd% 60

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

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(क) शब्दों और वाक्यों की सामान्य अशुद्धियाँ

I D'ku&ch

(ख) संज्ञा, सर्वनाम, लिंग, वचन, क्रिया, विशेषण, उपसर्ग, प्रत्यय, विराम-चिन्ह, वाक्य-रचना, विभिन्न काल और ध्वनि – अर्थ, परिभाषा और भेद बताना

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¼x½ i z kstuewyd fglUnh vkj i kfjHkkf"kd 'kCnkoyh

- प्रयोजनमूलक हिन्दी – अभिप्राय: और स्वरूप
- प्रयोजनमूलक हिन्दी – आवश्यकता और विशेषताएँ

I D'ku&Mh

¼k½ i z kstuewyd fglUnh & : i &Hkn] i fj0; kflr

- पारिभाषिक शब्दावली – अर्थ और स्वरूप
- पारिभाषिक शब्दावली – विशेषताएँ और महत्त्व

**SEMESTER-I**  
**Functional Hindi (Vocational)**  
QD' kuy fglh ½okds' kuy½

i z, ksx vksj ekf[kdh

i w kkid% 40

- विद्यार्थियों को प्रति समस्तर 40 अंक की प्रयोग-पुस्तिका तैयार करनी होगी। जिसमें 20 अंक मौखिक परीक्षा के और 20 अंक प्रयोग-पुस्तिका के होंगे।
- प्रयोग-पुस्तिका का आकलन और मौखिक-परीक्षा गुरु नानक देव विश्वविद्यालय द्वारा निर्धारित परीक्षा-नियमों के अनुसार की जाएगी।

i z, ksx ds fo"k;

- शब्दों और वाक्यों की सामान्य अशुद्धियों को शुद्ध करने का अभ्यास।
- सारांश का अभ्यास (संक्षेपण)
- हिन्दी वर्णमाला की जानकारी देना (अनुच्छेद में से स्वर, व्यंजन निकालने)
- राष्ट्रीयकृत बैंकों, पब्लिक सैक्टर/रेलवे/डाकघर/जीवन बीमा/आयकर विभाग आदि में से हिन्दी में प्रयुक्त होने वाले आंकड़े एकत्रित करना।

**SEMESTER-I**  
**Hindi Patrakarita (Vocational)**  
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i =dkfj rk vks½ fglnh i =dkfj rk % l kekl; i fjp;  
l e; % 3 ?ka/s

i wkkd% 60

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

I D'ku&

fu/kkfj r i kB; Øe%

½d½ i d 'kCnkoyh& ¼ kCnkoyh l kFk l byXu g½

(हिन्दी पत्रकारिता: विकास और विविध आयाम—श्रीमती सुशीला जोशी: राजस्थान हिन्दी ग्रन्थ अकादमी, चतुर्थ संस्करण – 2000)

I D'ku&ch

¼[k½ i =dkfj rk% vFk½ i fjHkk"kk vks½ Lo: i

- पत्रकारिता: उद्देश्य और दायित्व
- पत्रकारिता: प्रशिक्षण
- पत्रकारिता: प्रशिक्षण की समस्याएँ
- पत्रकारिता और पत्रकार
- पत्रकार के गुण और दायित्व

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- हिन्दी पत्रकारिता : प्रकार
- हिन्दी पत्रकारिता : चुनौतियाँ और समस्याएँ
- चतुर्थ स्तम्भ के रूप में हिन्दी पत्रकारिता

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- भारतेन्दु युग की पत्रकारिता
- द्विवेदी युग की पत्रकारिता
- छायावाद युग की पत्रकारिता
- आधुनिक युग की पत्रकारिता
- हिन्दी भाषा के प्रचार – प्रसार में हिन्दी पत्रकारिता का योगदान
- हिन्दी पत्रकारिता : रोजगार के अवसर

**SEMESTER-I**  
**Hindi Patrakarita (Vocational)**  
fgllnh i =dkfj rk %oksd's kuy½

i z, ksx vksj eks[kdh

i wkkid% 40

- विद्यार्थियों को प्रति समस्तर 40 अंक की प्रयोग पुस्तिका तैयार करनी होगी। जिसमें 20 अंक मौखिक परीक्षा के और 20 अंक प्रयोग-पुस्तिका के होंगे।
- प्रयोग-पुस्तिका का आकलन और मौखिक-परीक्षा गुरु नानक देव विश्वविद्यालय द्वारा निर्धारित परीक्षा-नियमों के अनुसार की जाएगी।

i z, ksx ds fo"k;

- विभिन्न भाषी समान समाचारों का संकलन
- शीर्षक-लेखक का अभ्यास
- हिन्दी-सम्प्रेषण निपुणता (Communication Skill) का प्रशिक्षण
- विभिन्न विषयों (राजनीतिक, सामाजिक आदि) पर समाचार-लेखन का अभ्यास

**SEMESTER-I**  
**SANSKRIT (ELECTIVE)**

¼dk0; , oa 0; kdj . k½

l e; &3 ?k. Vs

i w kkZd&100

i 7 u&i = dk ek/; e fglnh gksxkAmYkj l d'r@fglnh@i atkch@vaxst h ea gks l d'rs gA

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

पूर्णसार्धशतकम् के 1 से 32 श्लोक  
भक्तपूर्ण सिंह जी का जीवनवृत्त, भक्तपूर्ण सिंह जी का जीवन दर्शन,  
1-32 श्लोकों पर आधारित प्रश्न, सार।

**SECTION-B**

पूर्णसार्धशतकम् के 33 से 65 श्लोक  
भक्तपूर्ण सिंह जी का सेवाभाव, भक्तपूर्ण सिंह जी की सेवा के विविध प्रसंग,  
33-65 पद्यों पर आधारित प्रश्न, सार।

**SECTION-C**

1-100 संस्कृतसंख्यावाचक शब्द  
स्वरसन्धि  
निर्धारित धातुओं के लट्, लोट् एवं लृट् में रूप।  
भ्वादिगण-भू, पठ्, हस्, लिख् वद्, गम्, पत्, दृश्, स्मृ, पच्  
अदादिगण-अस्  
जुहोत्यादिगण-दा  
दिवादिगण-दिव्, नृत्, नश्  
स्वादिगण- शक्, श्रु  
तनादिगण- कृ

**SECTION-D**

निर्धारित अव्ययों का संस्कृत वाक्य में प्रयोग  
कुत्र, यत्र, तत्र, सर्वत्र, चिरम्, पुनः, श्वः, सदा, यदा, कदा, यथा, तथा, अधुना, अपि, एवम्।  
यूनिट C में निर्धारित धातुओं के लङ् एवं विधिलिङ् लकारों में रूप।  
वर्णोच्चारण।

lk' ui = fuekZk funZk

पाठ्यक्रम के A, B, C, D 4 सैक्शन हैं। अतः प्रश्न पत्र के भी A, B, C, D 4 सैक्शन बनाये जायेंगे तथा उन में 8 प्रश्न (पाठ्यक्रम के सैक्शन A से 2, B से 2, C से 2, D से 2) दिये जायेंगे। यदि आवश्यकता हो तो किसी भी प्रश्न के क, ख, ग, घ भाग बनाये जा सकते हैं, परन्तु सभी प्रश्नों के अंक समान हों।

### SECTION-A

<b>Question-I</b>	पूर्णसार्धशतकम् के 1 से 32 श्लोकों में से 4 की सप्रसंग व्याख्या	= 20 अंक
<b>Question-II</b>	क. प्रश्नों के लिए निर्धारित बिन्दुओं में से एक प्रश्न	= 10 अंक
	ख. प्रश्नों के लिए निर्धारित बिन्दुओं में से एक प्रश्न	= 10 अंक

### SECTION-B

<b>Question-III</b>	पूर्णसार्धशतकम् के 33 से 65 श्लोकों में से 4 की सप्रसंग व्याख्या	= 20 अंक
<b>Question-IV</b>	क. प्रश्नों के लिए निर्धारित बिन्दुओं में से एक प्रश्न	= 10 अंक
	ख. प्रश्नों के लिए निर्धारित बिन्दुओं में से एक प्रश्न	= 10 अंक

### SECTION-C

<b>Question-V</b>	निर्धारित संख्याओं में से 10 को संस्कृत में लिखवायें।	= 20 अंक
<b>Question-VI</b>	क. निर्धारित धातुओं में से 2 धातु देकर लट्, लोट् एवं लृट् रूप पूछे जायेंगे।	= 10 अंक
	ख. स्वर सन्धि में से 5 का सन्धि/सन्धिच्छेद	= 10 अंक

### SECTION-D

<b>Question-VII</b>	निर्धारित अव्ययों में से 8 का वाक्यों में प्रयोग पूछा जाए।	= 20 अंक
<b>Question-VIII</b>	क. निर्धारित धातुओं में से 2 धातु देकर लङ् एवं विधिलिङ् रूप पूछे जायें।	= 10 अंक
	ख. 5 वर्णों का उच्चारण स्थान पूछा जाए।	= 10 अंक

vuq kfi r xJFk %

1. पूर्णसार्धशतकम् (दलबीर सिंह चाहल), पब्लिकेशन ब्यूरो, गुरु नानक देव विश्वविद्यालय, अमृतसर।

**SEMESTER-I**  
**FUNCTIONAL SANSKRIT (VOCATIONAL)**

**Time: 3 Hours**

**Max. Marks: 100**

प्रश्न पत्र हिन्दी में होगा।

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

इन बिन्दुओं से संबंधित विस्तृत अध्ययन:  
भारतीय संस्कृति  
भारतीय संस्कृति के ग्राह्य तत्त्व

**SECTION-B**

इन बिन्दुओं से संबंधित विस्तृत अध्ययन :  
धार्मिक विधियों के उद्देश्य एवं प्रयोजन  
पंचांग परिचय

**SECTION-C**

इन बिन्दुओं से संबंधित विस्तृत अध्ययन :  
सन्ध्यावन्दन विधि  
प्राणायाम विधि  
अग्नि आवाहन विधि

**SECTION-D**

इन बिन्दुओं से संबंधित विस्तृत अध्ययन :  
ज्योतिष शास्त्र परिचय  
जातकरचनाप्रकाशक  
शान्ति होम

lk' ui = fuekzk funzk

पाठ्यक्रम के A, B, C, D 4 सैक्शन हैं। अतः प्रश्न पत्र के भी A, B, C, D 4 सैक्शन बनाये जायेंगे तथा उन में 8 प्रश्न (पाठ्यक्रम के सैक्शन A से 2, B से 2, C से 2, D से 2) दिये जायेंगे। यदि आवश्यकता हो तो किसी भी प्रश्न के क, ख, ग, घ भाग बनाये जा सकते हैं, परन्तु सभी प्रश्नों के अंक समान हों।

**SECTION-A**

<b>Question-I</b>	प्रश्न	= 20 अंक
<b>Question-II</b>	प्रश्न	= 20 अंक

**SECTION-B**

<b>Question-III</b>	प्रश्न	= 20 अंक
<b>Question-IV</b>	प्रश्न	= 20 अंक

**SECTION-C**

<b>Question-V</b>	प्रश्न	= 20 अंक
<b>Question-VI</b>	प्रश्न	= 20 अंक

**SECTION-D**

<b>Question-VII</b>	प्रश्न	= 20 अंक
<b>Question-VIII</b>	प्रश्न	= 20 अंक

**SEMESTER-I****ENGLISH (COMPULSORY)****Time: 3 Hours****Max. Marks: 50****Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**Texts Prescribed:-**

1. *Tales of Life* (Guru Nanak Dev University, Amritsar) Stories at Sr.No.1, 2, 3, 5 and 6
2. *Prose for Young Learners* (Guru Nanak Dev University, Amritsar) Essays at Sr. No. 1, 2, 3, 5 and 6
3. *English Grammar in Use* (Fourth Edition) by Raymond Murphy, CUP

**The syllabus is divided in four sections as mentioned below.****SECTION-A**

English Grammar in Use, 4<sup>th</sup> Edition by Raymond Murphy, CUP (Units: 1-37)

**SECTION-B**

Paragraph Writing and English Grammar in Use (Units: 38-48)

**SECTION-C**

Tales of Life (Guru Nanak Dev University, Amritsar): Stories at Sr. No. 1, 2, 3, 5 and 6

**SECTION-D**

Prose for Young Learners: Essays at Sr. No. 1, 2, 3, 5 and 6

**SEMESTER-I**  
**ENGLISH (ELECTIVE)**

**Time: 3 Hours**

**Max. Marks: 100**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**Prescribed Books:**

1. *A Doll's House* by Henrik Ibsen (preferably Penguin Classics Edition)
2. *Spots of Time* G.N.D.U. Amritsar
3. *Glossary of Literary Terms* by M.H. Abrams, Wadsworth CENGAGE Learning Publishers, 8th Edition, 2008.
4. *Better Pronunciation of English* by J.D.O'Connor

**The syllabus is divided in four sections as mentioned below:**

**SECTION-A**

- a) Literary Terms: Ballad, Character, Comedy, Conceit, Epic, Irony, Plot, Paradox
- b) Transcription of Words: comb, crèche, dose, gauge, ghost, castle, gross, mauve, sure sample, wolf, wool, arch, off, of, door, stair, what, cough, clerk, tooth, yak, yawn, sing, tongue.

**SECTION-B**

*Spots of Time*: Poems at serial No. 1,2,3,5,7,8,9

**SECTION-C**

*Spots of Time*: Poems at serial No. 10-12, 14, 19, 20

**SECTION-D**

*A Doll's House* by Henrik Ibsen

**SEMESTER-I**

**FUNCTIONAL ENGLISH (VOCATIONAL)  
PHONETICS AND PHONOLOGY (THEORY)**

**Time: 3 Hours**

**Max. Marks: 100  
Theory Marks: 60  
Practical Marks: 40**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**Book Prescribed:** J.D.O'Connor, *Better Pronunciation of English*

**Course Contents:**

**SECTION-A**

The phonology of English: Phonetic Symbols for Consonants, Vowels and Diphthongs, Consonant clusters

**SECTION-B**

The Syllable, Weak Forms and Contractions

**SECTION-C**

Word Stress, Sentence Stress

**SECTION-D**

Intonation: Patterns of Intonation in simple sentence types.

**(PRACTICAL)**

**Marks: 40**

The main emphasis in the practical examination should be to assess the pronunciation of the examinees. Some of the suggested tasks for practical examination are given below:

1. The examinees may be asked to pronounce some individual words, or loudly read a passage. **10 Marks**
2. The examinees may be asked to form groups and to engage in conversation on the given topic. **10 Marks**
3. The examinees may be asked to listen to a recorded conversation and transcribe that conversation. **10 Marks**
4. Any other practical activity **10 Marks**

**Note:** The examiner may use some other similar modes of testing.

**Suggestions for Teaching:**

1. Lists of minimal pairs may be used (e.g. cot-court, ship-sheep, etc.) for practice in listening and speaking.
2. Emphasis is to be placed on the use of spoken language rather than on theory. Once the learners are familiar with the speech sounds, patterns of stress and intonation, they must be given intensive practice in these areas.
3. It must be made clear that the model of pronunciation is not strictly R.P. Learners should follow the dictionary as closely as possible but wherever there are differences between R.P. and the sounds used in Indian English, these differences can be accepted if they do not interfere with intelligibility and clarity of speech. (Teachers may not insist on a perfect articulation of RP sounds).

**SEMESTER-I**

**Punjabi (Compulsory) ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)**

ਸਮਾਂ : 3 ਘੰਟੇ

ਕੁਲ ਅੰਕ : 50

**ਅੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ**

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿੱਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਭਾਗ ਵਿੱਚੋਂ ਇੱਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿੱਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਬਰਾਬਰ ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ-ਪ੍ਰਸ਼ਨਾਂ ਵਿੱਚ ਕਰ ਸਕਦਾ ਹੈ।

**ਪਾਠ-ਕ੍ਰਮ ਅਤੇ ਪਾਠ-ਪੁਸਤਕਾਂ**

**ਸੈਕਸ਼ਨ - ਏ**

ਦੋ ਰੰਗ (ਕਵਿਤਾ ਭਾਗ) (ਸੰਪਾ. ਹਰਜਿੰਦਰ ਸਿੰਘ ਢਿੱਲੋਂ ਅਤੇ ਪ੍ਰੀਤਮ ਸਿੰਘ ਸਰਗੋਧੀਆ),  
ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

(ਲੇਖਕ ਦਾ ਜੀਵਨ ਤੇ ਰਚਨਾ /ਪ੍ਰਸ਼ਗ ਸਾਹਤ ਵਿਆਖਿਆ/ਕਾਵਤਾ ਦਾ ਵਿਸ਼ਾ-ਵਸਤੂ)

**ਸੈਕਸ਼ਨ - ਬੀ**

ਸੰਸਾਰ ਦੀਆਂ ਪ੍ਰਸਿੱਧ ਹਸਤੀਆਂ (ਜੀਵਨੀ ਨੰ: 1 ਤੋਂ 9 ਤੱਕ)

(ਸੰਪਾ. ਪ੍ਰਿੰ. ਤੇਜਾ ਸਿੰਘ, ਹਰਨਾਮ ਸਿੰਘ ਸ਼ਾਮ),

ਪੰਜਾਬੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।

(ਵਿਸ਼ਾ-ਵਸਤੂ/ਸਾਰ/ਨਾਇਕ ਬਿੰਬ)

**ਸੈਕਸ਼ਨ - ਸੀ**

(ੳ) ਪੈਰਾ ਰਚਨਾ (ਤਿੰਨ ਵਿੱਚੋਂ ਇੱਕ)

(ਅ) ਪੈਰਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ।

**ਸੈਕਸ਼ਨ - ਡੀ**

(ੳ) ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ : ਭਾਸ਼ਾ ਦਾ ਟਕਸਾਲੀ ਰੂਪ, ਭਾਸ਼ਾ ਅਤੇ ਉਪ-ਭਾਸ਼ਾ ਵਿੱਚ ਅੰਤਰ,  
ਪੰਜਾਬੀ ਉਪਭਾਸ਼ਾਵਾਂ ਦੇ ਪਛਾਣ-ਚਿੰਨ੍ਹ।

(ਅ) ਪੰਜਾਬੀ ਭਾਸ਼ਾ : ਨਿਕਾਸ ਤੇ ਵਿਕਾਸ

**SEMESTER-I**

**Punjabi (Elective) ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)**

ਸਮਾਂ : 3 ਘੰਟੇ

ਕੁਲ ਅੰਕ: 100

**ਅੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ**

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਭਾਗ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਬਰਾਬਰ ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ-ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

**ਪਾਠ-ਕ੍ਰਮ ਅਤੇ ਪਾਠ-ਪੁਸਤਕਾਂ**

**ਸੈਕਸ਼ਨ- ਏ**

ਸੁਖਨ ਦੇ ਸੂਰਜ (ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਾਵਿ-ਸੰਗ੍ਰਹਿ : 1901-1995),  
(ਸੰਪਾ. ਡਾ. ਬਲਜੀਤ ਕੌਰ ਅਤੇ ਡਾ. ਟੀ.ਡੀ. ਜੋਸ਼ੀ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।  
ਕਵਾ : ਭਾਈ ਵਾਰ ਸਾਘ, ਪ੍ਰ. ਪੂਰਨ ਸਾਘ, ਮਹਨ ਸਾਘ, ਆਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ, ਬਾਵਾ ਬਲਵਤ, ਸ਼ਵ ਕੁਮਾਰ, ਜਗਤਾਰ,  
ਪਾਸ਼, ਸੁਰਜੀਤ ਪਾਤਰ ।

(ਪ੍ਰਸ਼ਗ ਸਾਹਤ ਵਿਆਖਿਆ/ਵਿਸ਼ਾ-ਵਸਤੂ/ਸਾਰ)

**ਸੈਕਸ਼ਨ- ਬੀ**

ਸਿਮਟਦਾ ਆਕਾਸ਼ (ਨਾਵਲ) - ਬਲਬੀਰ ਪਰਵਾਨਾ  
ਲੋਕਗੀਤ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।  
(ਲੇਖਕ ਦਾ ਜੀਵਨ ਤੇ ਰਚਨਾ/ਵਿਸ਼ਾ-ਵਸਤੂ/ਬਰਤਾਤਕ ਜੁਗਤਾ/ਪਾਤਰ-ਉਸਾਰੀ)

**ਸੈਕਸ਼ਨ- ਸੀ**

ਭਾਰਤੀ ਕਾਵਿ- ਸ਼ਾਸਤਰ : ਪਾਰਭਾਸ਼ਾ, ਸਪਰਦਾਵਾ

(ਧੁਨੀ ਸੰਪਰਦਾ, ਰਸ ਸੰਪਰਦਾ, ਅਲੰਕਾਰ ਸੰਪਰਦਾ)

**ਸੈਕਸ਼ਨ- ਡੀ**

ਅਰਥ ਵਿਗਿਆਨ : ਸਫੇਟ ਅਤੇ ਅਪੋਹ ਸਥਾਤ, ਅਰਥ ਆਧਾਰਤ ਸ਼ਬਦ ਵਨਗਾਆ : ਬਹੁਅਰਥਕ, ਸਮਾਨਅਰਥਕ,  
ਵਿਰੋਧਾਰਥਕ ਸ਼ਬਦ

**SEMESTER-I**

**Mudhli Punjabi**

**ਮੁੱਢਲੀ ਪੰਜਾਬੀ**

(In lieu of Compulsory Punjabi)

ਸਮਾਂ : 3 ਘੰਟੇ

ਕੁਲ ਅੰਕ: 50

**ਅੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ**

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿੱਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਭਾਗ ਵਿੱਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿੱਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਬਰਾਬਰ ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ-ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

**ਪਾਠ-ਕ੍ਰਮ**

**ਸੈਕਸ਼ਨ-ਦੇ**

ਪੈਂਤੀ ਅੱਖਰੀ, ਅੱਖਰ ਕ੍ਰਮ, ਪੈਰ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣ ਅਤੇ ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣ ਅਤੇ ਮਾਤ੍ਰਵਾਂ (ਮੁੱਢਲੀ ਜਾਣ-ਪਛਾਣ)

ਲਗਾਖਰ (ਬਿੰਦੀ, ਟਿੱਪੀ, ਅੱਧਕ) : ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ

**ਸੈਕਸ਼ਨ-ਬੀ**

ਪੰਜਾਬੀ ਸ਼ਬਦ-ਬਣਤਰ : ਮੁੱਢਲੀ ਜਾਣ-ਪਛਾਣ

(ਸਾਧਾਰਨ ਸ਼ਬਦ, ਸੰਯੁਕਤ ਸ਼ਬਦ, ਮਿਸ਼ਰਤ ਸ਼ਬਦ, ਮੂਲ ਸ਼ਬਦ, ਅਗੇਤਰ ਅਤੇ ਪਿਛੇਤਰ)

**ਸੈਕਸ਼ਨ-ਸੀ**

ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ : ਬਾਜ਼ਾਰ, ਵਪਾਰ, ਰਿਸ਼ਤੇ-ਨਾਤੇ, ਖੇਤੀ ਅਤੇ ਹੋਰ ਧੰਦਿਆਂ ਆਦਿ ਨਾਲ ਸੰਬੰਧਤ।

**ਸੈਕਸ਼ਨ-ਡੀ**

ਹਫ਼ਤੇ ਦੇ ਸੱਤ ਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰ੍ਹਾਂ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਰੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕ ਤੋਂ ਸੌ ਤਕ ਗਿਣਤੀ ਸ਼ਬਦਾਂ ਵਿਚ

**SEMESTER-I**

**FUNCTIONAL PUNJABI (VOCATIONAL)**  
**(ਪੰਜਾਬੀ ਪ੍ਰਕਾਰਜੀ)**  
**(Theory)**

ਕੁਲ ਅੰਕ : 100

ਪਰਚਾ ਏ : ਲਿਖਣ ਸ਼ੈਲੀਆਂ

ਅੰਕ : 50

ਪਰਚਾ ਬੀ : ਰਸਮੀ ਲਿਖਤ

ਅੰਕ : 50

1. ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਉਚਾਰਨ ਅਤੇ ਲਿਖਤ ਨਾਲ ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ

2. ਉਚਾਰਨ ਅਤੇ ਲਿਖਣ ਦਾ ਅਭਿਆਸ

**ਅੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ**

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਭਾਗ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਬਰਾਬਰ ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ-ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

**ਪਰਚਾ ਏ - ਲਿਖਣ ਸ਼ੈਲੀਆਂ**

ਸਮਾ : ਦ ਘਟ

ਅੰਕ : 50

ਪਾਠ-ਕ੍ਰਮ

ਸੈਕਸ਼ਨ-ਏ

ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਸੰਰਚਨਾ (ਵਾਕ, ਸ਼ਬਦ)

ਪੰਜਾਬੀ ਉਚਾਰਨ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ

ਸੈਕਸ਼ਨ-ਬੀ

ਉਚਾਰਨ ਅਗਾ ਦਾ ਬਣਤਰ ਅਤ ਕਾਰਜ, ਧੁਨਾਆ ਦਾ ਵਰਗਾਕਰਨ

ਪੰਜਾਬੀ ਸੂਰ, ਵਿਅੰਜਨਾਂ ਤੇ ਸੁਰਾਂ ਦੇ ਉਚਾਰਨ ਤੇ ਵਰਤੋਂ ਦੇ ਨੇਮ

ਸੈਕਸ਼ਨ-ਸੀ

ਅੰਤਰ-ਰਾਸ਼ਟਰੀ ਧੁਨੀ ਲਿਪੀ : ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ

ਅੰਤਰ-ਰਾਸ਼ਟਰੀ ਧੁਨੀ ਲਿਪੀ ਦਾ ਵਰਤ

ਗੁਰਮੁਖੀ ਔਰਥੋਗਰਾਫੀ ਦੇ ਤੱਤ ਅਤੇ ਨਿਯਮ

ਪੰਜਾਬੀ ਉਚਾਰਨ ਨੂੰ ਅੰਤਰ-ਰਾਸ਼ਟਰੀ ਧੁਨੀ ਲਿਪੀ ਅਤੇ ਗੁਰਮੁਖੀ ਵਿਚ ਲਿਖਣ ਲਈ 10-10 ਸਤਰਾਂ ਦ ਪਜ ਅਭਿਆਸ

ਸੈਕਸ਼ਨ-ਡੀ

ਕੰਪਿਊਟਰ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਮੁਖ ਕਾਰਜ

ਸੂਚਨਾ ਤਕਨਾਲੋਜੀ : ਇਟਰਨਟ, ਏ-ਮੇਲ

**SEMESTER-I**

**FUNCTIONAL PUNJABI (VOCATIONAL)**

(ਪੰਜਾਬੀ ਪ੍ਰਕਾਰਜੀ)

(Practical)

ਸਮਾਂ : 1 ਘੰਟਾ

ਪਰਚਾ ਬੀ- ਰਸਮੀ ਲਿਖਤ

ਕੁਲ ਅੰਕ : 50

**ਪਾਠ-ਕ੍ਰਮ**

**ਸੈਕਸ਼ਨ-ਏ**

ਲਿਖਤ ਨੂੰ ਉਚਾ ਆਵਾਜ਼ ਵਿਚ ਪੜ੍ਹਨ ਦਾ ਅਭਿਆਸ

**ਸੈਕਸ਼ਨ-ਬੀ**

ਜੁਬਾਨੀ ਬੋਲਣ ਦਾ ਅਭਿਆਸ

ਯਾਦ ਕਰਕੇ ਜੁਬਾਨੀ ਬੋਲਣ ਦਾ ਅਭਿਆਸ

**ਸੈਕਸ਼ਨ-ਸੀ**

ਬਿਨਾਂ ਤਿਆਗ ਤੇ ਕਿਸ ਘਟਨਾ, ਖ਼ਬਰ, ਸਾਖ਼ਤਾ, ਦ੍ਰਿਸ਼ ਜਾਂ ਵਿਅਕਤੀ ਬਾਰੇ ਮਾਖ਼ਕ ਪਧਰ ਉੱਤੇ ਵਰਣਨ ।

**ਸੈਕਸ਼ਨ-ਡੀ**

ਰਿਸ਼ਤਾ-ਨਾਤਾ ਪ੍ਰਣਾਲੀ ਨਾਲ ਸਬਾਧਤ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ ਦਾ ਜਾਣਕਾਰੀ

ਦਫ਼ਤਰੀ ਤਕਨੀਕੀ ਸ਼ਬਦਾਵਲੀ ਦੀ ਜਾਣਕਾਰੀ

ਨੋਟ : ਪ੍ਰਕਟਿਕਲ ਵਿਚ ਵਿਦਿਆਰਥੀ ਦਾ ਪੰਜਾਬੀ ਉਚਾਰਨ ਦਾ ਸਮਰਥਾ ਦਾ ਮਾਖ਼ਕ ਪਰੀਖਿਆ ਲਈ ਜਾਵੇਗਾ ।

**SEMESTER-I**  
**PHYSICAL EDUCATION**  
**(THEORY)**

**Time: 3 Hours**

**Max. Marks: 100**  
**Theory Marks: 60**  
**Practical Marks: 40**

**Instructions for the Paper Setters:-**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

1. Definition of the terms: Education, Physical Education, Physical Training and Coaching.
2. Aims and Objectives of Physical Education.
3. Relationship of Education and Physical Education.

**SECTION-B**

4. Biological Principles:
  - (a) Growth and Development
  - (b) Age and sex differences
  - (c) Effects of heredity and environment on growth and development.
  - (d) Chronological age, physiological age, Anatomical age and Mental age.
5. Body types.

**SECTION-C**

6. Development of Physical Education and Sports in India.
  - (a) Pre-Independence
  - (b) Post- Independence
  - (c) Sports Schemes in India
    - (i) N.S.N.I.S.
    - (ii) Sports Authority of India.
    - (iii) Punjab Sports Department.
    - (iv) Punjab State Sports Council.

**SECTION-D**

7. Olympic Games:
  - (a) Ancient Olympics.
  - (b) Modern Olympics.
8. Commonwealth Games
9. Asian Games

**SEMESTER-I**  
**PHYSICAL EDUCATION**  
**(PRACTICAL)**

**Marks: 40**

**Division of Marks: Athletics (12) + Games (12) +Ground Markings (3+3),  
Practical Note Book (5), Viva-Voce (5)**

- **Athletics Performance** ————— 100M, Shot-put for Boys  
100M, Shot-put for Girls
- **Games (Boys & Girls) ——— Fundamentals, Rules, Performance**  
Volleyball  
Cricket

**Suggested Readings:**

1. Barrow, H.M. Man and His Movements: Principles of Physical education, Lea and Febiger, 1973, Latest Edition.
2. Brar, Gurcharan Singh. Roots of Panjab University and its Sports Archives(1882-1982), Mohindra Publishing House, Chandigarh, 2017.
3. Reverse, R.S., Foundations of Physical Education Houghton Mifflin Co. Boston, 1978, Latest Edition.
4. Bucher, C.S. Foundations of Physical Education 5<sup>th</sup> Edition, 1968, at Louis C.V. Mosby. C.
5. Eraz Ahmad Khan, History of Physical Education – Scientific Book Co., Patna-4, Latest Ed.
6. Singh Kanwaljeet and Singh Inderjeet: Sports Sociology, Friends Publication, New Delhi, 2000.
7. Tadan D.K. et al.: Scientific basis of Physical Education and Sports, Friends Publication, New Delhi, 2001.
8. Singh Ajmer and Gill Jagtar: Essentials of Physical Education and Olympic Movement, Kalyani Publishers, Ludhiana, 2004.
9. Kang G.S. and Deol N.S.: An Introduction to Health and Physical Education 21st Century, Patiala, 2008.