SYLLABUS

FOR

B.A./B.Sc.

(12+3 SYSTEM OF EDUCATION)
(SEMESTER–II)

Examinations: 2015-16

GURU NANAK DEV UNIVERSITY AMRITSAR

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INDEX OF SEMESTER–II

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Arts & Social Sciences)

SEMESTER–II

POLITICAL SCIENCE

MODERN POLITICAL THEORY

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setter:

Section–A: The examiner shall set 10 questions. Candidate will attempt 7 questions carrying 4 marks in 10–15 sentences each. The total weightage of this section shall be 28 marks.

Section–B: The examiner shall set 8 questions, two from each unit. The candidate shall attempt 4 questions in all, one from each unit. Each question carries 18 marks. The total weightage of this section shall be 72 marks.

UNIT–I

1. **Political System:** Meaning, Characteristics and Functions.
2. **Political Culture:** Meaning, Characteristics and Types.
3. **Political Socialisation:** Meaning, Characteristics and Agencies.

UNIT–II

1. **Rights and Duties:** Meaning, Types and Relationship between the Two.
2. Universal Declaration of Human Rights.
3. **Environmental Protection:** Issue and Efforts.

UNIT–III

1. **Liberty**: Meaning, Types and its Safeguards.
2. **Equality:** Meaning, Types and Relationship between Liberty and Equality.
3. **Justice**: Meaning and its various Dimensions.

UNIT–IV

1. **Democracy:** Meaning, Characteristics and Types.
2. **Theories of Democracy:** Liberal, Marxian and Elitist Theory.

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. Ashirvatham, *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. John–Hoffman and Paul Graham, *Introduction to Political Theory,* New Delhi, Pearsons, 2006.
11. Andrew Heywood, *An Introduction to Political Theory,* New Delhi, Palgrave Publications.
12. Aeon J. Skoble and Tibor R. Machan, *Political Philosophy*, 1st Edition, New Delhi, Pearson 2007.

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Arts & Social Sciences)

SEMESTER–II
HISTORY

HISTORY OF INDIA (C. 1000–A.D.1707)

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setter:

Section–A: The examiner will set 10 questions from entire syllabus and the candidate will attempt 6 questions carrying 6 marks each. Answer to each question will be in 15 to 20 sentences. The total weightage of this Section will be 36 marks.

Section–B: The examiner will set 8 questions, **two** from each UNIT. The candidate will attempt 4 questions selecting one from each UNIT–with at least 5 pages each. Each question will carry 16 marks. The total weightage of this Section will be 64 marks.

Important Note: Paper Setter must ensure that questions in **Section–A** do not cover more than one point, and questions in **Section–B** should cover at least 50 per cent of the theme.

UNIT–I

1. **The Conquests of the Ghaznavis and Ghauris:** Political condition of India; Invasions of Mahmud Ghaznavi; their effects, Battles of Muhammad Ghauri, Causes of the success of the Turks.
2. **Establishment of the Sultanate of Delhi:** Political and military development under Qutabuddin Aibak, Iltutmish and his successors; Consolidation of the Sultanate under Balban and the Mongol invasions.

UNIT–II

3. **The Khiljis:** Emergence of the Khiljis under Jalaluddin and Alauddin Khilji; Alauddin's conquests, the Mongol invasions; Treatment of the nobility; Land revenue reforms; Economic reforms.**The Tughlaqs:** Muhammad–bin–Tughlaq; His experiments; Causes of disaffection and revolts; Feroze Tughlaq; Administrative and economic policies and their effects; Taimur’s Invasions.
4. **The Vijaynagar Kingdom:** Establishment and expansion; Polity, Economy and Administration; Art and Architecture.

UNIT–III

5. **Mughal–Afghan Struggle (1526–1556):** Political condition of India; Advent of the Mughals under Babur; Battle of Panipat and its aftermath; Battle of Kanwaha, Battles of Humayun; expansion of the Afghan power under Sher Shah Suri, Administrative reforms; return of Humayun.
6. **Re–Establishment and Expansion of the Mughal Empire Under Akbar:** Conquests, extent of empire, Religious policy, Rajput policy.
7. **Expansion and Decline under Akbar's Successors** : Jahangir and Mewar; North–western campaigns; Extension of influence over the Deccan; Conquest of Ahmednagar by Shah Jahan; Rise of Aurangzeb to power.

UNIT–IV

8. **The Establishment of Maratha Power:** The rise of Shivaji, Maratha administration, Land revenue system; Chauth and Sardeshmukhi.
9. **The Mughal Government, Administration and Culture:** Position of the King: Central and local administration; Land revenue system; Mansabdari; Jagirdari; State policy towards agriculture, Trade and Commerce, Literature, Art and Architecture and Culture.

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
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SEMESTER–II
DEFENCE AND STRATEGIC STUDIES

INTERNATIONAL RELATIONS: DEFENCE ASPECTS
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 80
Practical Marks: 20

Instructions for the Paper Setters:

Section–A: The examiner shall set 10 short answer type questions from the entire syllabus and the candidates will attempt 7 questions carrying 4 marks each. Answer to each question shall not exceed half of the page. The total weightage of this section shall be 28 marks.

Section–B: The examiner shall set 8 questions from the entire syllabus – two from each unit. The candidate shall attempt four questions, one from each unit. Each question shall carry 13 marks. The total weightage of this unit–shall be 52 marks.

Note: *Practicals only meant for the regular students. For the private students the two papers shall be of* ***100 marks each.*** *For the private students, each question in Section B will be of 18 marks.*

UNIT–I

1. National Interest:
- i) Concept and definition.
- ii) Vital and non–vital elements
- iii) Instruments to serve National Interest.

2. The UNITed Nations:
- i) Structure (Organs and specialised agencies)
- ii) Functions

UNIT–II

1. Balance of Power:
- i) Meaning and Concept
- ii) Historical Development of the system.
- iii) Functioning of the system.

2. Collective Security:
- i) Meaning & Concept.
- ii) Role of UN in maintaining collective security.

UNIT–III

1. Diplomacy:
- i) Definition.
- ii) Types and uses

2. Frontiers and Boundaries:
- i) Difference between Frontiers and Boundaries.
- ii) Types of Boundaries.
- iii) Importance of Boundaries.

UNIT–IV

1. Humanisation of War:
- i) Definition and Concept.
- ii) Geneva Conventions.

2. Means to Settle International Disputes:
- i) Pacific Means.
- ii) Coercive Means

3. Disarmament and Arms Control:
- i) Difference between Disarmament and Arms Control.
- ii) Types of Disarmament.
- iii) Efforts, Made outside the UN towards disarmament.

Books Recommended:

1. Curzon, Lord of Kedpeston : Forntiers.
2. Encyclopaedia Americana.
3. Encyclopaedia Britannica.
4. Oppenheim, L. International Law, Vol. I
5. Patel Satyavrata R., A Text Book of International Law.
6. Fenwick, Charles G., International Law.
7. Ghai, U.R., International Politics.
8. Mehta Narendra, International Relations.
9. Chandra, P., International Politics.
10. Naik, J.A., A Text Book of International Relations.
11. Morgenthau, Hans J., Politics among Nations.

SEMESTER–II
DEFENCE AND STRATEGIC STUDIES
INTERNATIONAL RELATIONS: DEFENCE ASPECTS
(PRACTICAL)

Time: 3 Hrs. **Total Marks: 20**
Written: 10
Discussion: 05
Record & Viva-Voce: 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

Time: 1 Hour **Marks: 10**

1. **Directions**
2. **North**
   a. Types of North and finding out True North
   b. The Pole Star Method
   c. The equal altitude method
   d. Watch method & Compass method.
3. **Scale**
   a. Definition,
   b. Methods of representing Scale.
   c. Inter–conversion of scale into Representative Fraction, construction of simple scale line and the comparative scale lines.

B. TOPICS FOR DISCUSSION/PRESENTATION: **Marks: 05**

a. The role of UN in peace keeping.
b. Collective Security System
c. Humanization of War

C. RECORD AND VIVA-VOCE **Marks: 05**

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
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SEMESTER–II
JOURNALISM AND MASS COMMUNICATION (VOCATIONAL)
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 80
Practical Marks: 20

Instructions for the Paper Setters:
Section–A shall consists of 10 questions carrying 2 marks for each question. All questions will be compulsory. Each question will carry 2 marks with the total weightage of section being 20 marks.

10x2=20

Section–B shall consists of 10 questions. Candidates will be required to attempt any 8 questions. Each question will carry 5 marks. The total weightage of this section being 40 marks.

8x5=40

Section-C shall consists of 4 questions. Candidates will be required to attempt any 2 questions. Each question will carry 10 marks. The total weightage of this section being 20 marks.

10x2=20

NOTE:- Question paper will be set in English only but the medium of Examination will be English, Hindi & Punjabi.

Audio Visual Media

- Development of Radio, T.V., Cinema and Cab.
- Le in India over the years.
- Organs of I & B Ministry : FTII, NFAI, DAVP, Field Publicity, Song & Drama Division, Directorate of film festivals, NFDC, RNI, Film division.
- Fundamentals of hardware of electronic Media (Studios, Microphones, Recording equipements editing equipments).
- Print Media, its characteristics (News concept, elements, types, Basics of news reporting, Sources of news, hard and soft news, specialized reporting).
- Audio–visual media, its characteristics.
- Basics of different formats for Radio & TV.

SEMESTER–II
JOURNALISM AND MASS COMMUNICATION (VOCATIONAL)

(PRACTICAL)

(20 Marks)

Reporting the College Events.

Visit to Newspapers Offices

Books Recommended:

Name of the Book	**Author**	**Publisher**
Professional Journalism	M.V. Kamath	Vikas
The Journalist's Handbook	M.V. Kamath	Vikas
Here is the News	Rangaswamy	Sterling
	Parthasarthy	Sterling
Basic News Writing	M. Mancher	Universal Book Stall
Journalism–A Guide to Freelancing	R.K. Murthy	Rallance

SEMESTER–II

MASS COMMUNICATION & VIDEO PRODUCTION (VOCATIONAL)
(THEORY)

AUDIO VISUAL MEDIA

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 80
Practical Marks: 20

Instructions for the Paper Setters:
Section–A shall consists of 10 questions carrying 2 marks for each question. All questions will be compulsory. Each question will carry 2 marks with the total weightage of section being 20 marks.

10x2=20

Section–B shall consists of 10 questions. Candidates will be required to attempt any 8 questions. Each question will carry 5 marks. The total weightage of this section being 40 marks.

8x5=40

Section-C shall consists of 4 questions. Candidates will be required to attempt any 2 questions. Each question will carry 10 marks. The total weightage of this section being 20 marks.

10x2=20

Note:- Question paper will be set in English only but the medium of Examination will be English, Hindi & Punjabi.

History & Development of Radio, T.V., Cinema & Cable in India Organs of Information & Broadcasting Ministry

– Film & Television Institute of India

– National Film Archive of India

– Directorate of Advertising & Visual Publicity

– Directorate of Field Publicity

– Song & Drama Division

– Directorate of Film Festivals

– National Film Development Corporation

– Registrar of Newpapers for India

– Film Division

Print Media

– Characteristics

– Concept of News

– Elements of News

– Types of News – Steps of Writing News

– Sources of News

– Basics of News Reporting

Audio–visual Media Characteristics

Basics of Different formats for Radio & TV

– How to write for different Radio & TV formats

– Online Journalism

SEMESTER–II

MASS COMMUNICATION & VIDEO PRODUCTION (VOCATIONAL)

(PRACTICAL)

Marks: 20

Visit to AIR, DD and other media organizations, News

Writing, Introduction to basic mechanics of production techniques, script writing for Radio & TV programmes. Computer Practicals

Books Recommended:-

Title	**Author**	**Publisher**
Outline of Reporting	M.K. Joseph	Anmol Publications, 1997
Radio & TV Journalism	Jan R. Hakemulder	Anmol Publications, New Delhi,
Radio & TV Journalism	K.M. Srivastava	Sterling Publications
Annual Report		I & B Ministry

NOTE: Practicals to be conducted by the external examiner.

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SEMESTER–II
PUBLIC ADMINISTRATION

INDIAN ADMINISTRATION

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A: The examiner shall set 10 questions. Candidate will attempt 7 questions carrying 4 marks in 10–15 sentences each. The total weightage of this section shall be 28 marks.

Section–B: The examiner shall set 8 questions, two from each unit. The candidate shall attempt 4 questions in all, one from each unit. Each question carries 18 marks. The total weightage of this section shall be 72 marks.

UNIT–I

Main Features of Indian Administration: Nature of Indian Federalism, Union–State Relations. Legislative, Administrative and Financial.

UNIT–II

Central Administration: President, Prime Minister, PMO, Council of Ministers. Central Secretariat; Organisation and Functions, Cabinet Secretariat.
Parliament: Lok Sabha, Rajya Sabha, Speaker.
Judicial System: Supreme Court and High Court.

UNIT–III

State Administration: Governor, Chief Minister, Council of Ministers, Chief Secretary, State Legislature. State Planning Commission.
Divisional and District Administration: Features, Functions and Role of Divisional Commissioner and Deputy Commissioner.

UNIT–IV

Issues in Indian Administration: Relationship between permanent and political executive, Generalist versus specialist.

Suggested Readings:

1. Arora Ramesh K. and Goyal R., Indian Public Administration, Vishwa Prakashan, New Delhi, 2002.
2. Avasthi and Avasthi, Indian Administration, Lakhsmi Narain, Agra, 2000.
3. Bhagwan Vishnoo and Bhushan Vidya, Indian Administration, S. Chand & Company, New Delhi, 2000.
4. Fadia B.L. Fadia Kuldeep, Indian Administration, Sahitya Bhawan Publishers, New Delhi, 2005.
5. Hoshiar Singh, Indian Administration, Kitab Mahal, Allahabad, 2000.
6. Jain R.B. Contemporary Issues in Indian Administration, Vishal Publications, New Delhi, 1976.
7. Maheshwari S.R., Indian Administration, Orient Longman, New Delhi, 2000.
8. Maheshwari S.R., State Government in India, McMillan, New Delhi, 1979.
9. Sachdeva Pardeep, Bharti Prashasan, Publication Bureau, Panjabi University, Patiala, 2002.
10. D.D.Basu, Introduction to the Indian Constitution.

SEMESTER–II
SOCIOLOGY

FUNDAMENTALS OF SOCIOLOGY

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A: The examiner shall set 10 questions and the candidates will attempt 7 questions carrying 4 marks each. Answer to each question shall not exceed half of the page. The total weightage of this section shall be 28 marks.

Section–B: The examiner shall set 8 questions for the entire syllabus, 2 from each unit. The candidate shall attempt any 4 questions one from each unit. Each question shall carry 18 marks. The total weightage of this section shall be 72 marks.

UNIT–I

a) **Socialization:** Meaning, Processes, Agencies and Theories of self (C.H.Cooley, G.H.Mead, Sigmund Freud)
b) **Culture:** Meaning, Elements, Cultural lag

UNIT–II

a) **Social Stratification:** Meaning and Forms.
b) **Social Mobility:** Meaning, Types and Causes.

UNIT–III

a) Social Control; Meaning, Agencies : Formal and Informal
b) **Formal:** Law, Informal: Folkways, Mores, Customs, Public Opinion, Propaganda

UNIT–IV

a) **Social Disorganization:** Meaning and Forms: Corruption, Crime, Anomie, Terrorism.

References:

1. Ahuja, Ram: *Indian Social System*, Rawat Publications, Jaipur, 1993.
2. Abraham, M. Francis.: *Contemporary Sociology*, Oxford University, New Delhi, 2006.
3. Bottomore, T.B.S.: *Sociology*, Punjabi Translation by Parkash Singh Jammu, Publication Bureau, Punjabi University, Patiala, 1972.
4. Gisbert, Pascual: *Fundamentals of Sociology*, Orient Longmans, Bombay, 1969.
5. Jayaram, N. *Introductory Sociology*, Macmillan, Madras, 1988.
6. Johnson, H.M. Sociology: *A Systematic Introduction*, Allied Publishers, New Delhi, 1995.
7. Kapila, S.: *A Text Book of Sociology*, Part–I & II, New Academic House, Jalandhar, 1989.
8. Kapila, S.: *Fundamentals of Sociology*, Vol. I. Panchkula, Kapila Publishers, 2001.
9. McGee, Reece et al., *Sociology–An Introduction*, Reinehart and Winston, Hindale, 1977.

SEMESTER–II
WOMEN EMPOWERMENT

WOMEN INEQUALITY: SOCIAL, POLITICAL AND ECONOMIC ASPECTS

Time: 3 Hrs. **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A The examiner shall set 10 questions. Candidate will attempt 7 questions carrying 4 marks in 10-15 sentences each. The total weightage of this section shall be 28 marks.

Section–B The examiner shall set 8 questions two from each unit. The candidate shall attempt 4 questions in all, at least one from each unit. Each question carries 18 marks. The total weightage of this section shall be 72 marks.

UNIT–I

Women Inequality: Social Aspects

1. **Women Inequality and Violence:** Discriminations, Sexual Harassment, Child Marriage, Dowry, Abortion, Traffiking, Rape and Acid throwing.
2. **Social Issues Related to Women and Practice of Inequality:** Health, Female Foeticide, Female Infanticide.

UNIT–II

Women Inequality: Economic Aspects

1. **Women and Economy:** Poverty and inclusive growth.
2. **Women in Formal Sector:** Information Technology and Industry.
3. **Women in Informal Sector:** Domestic workers and unpaid labour.

UNIT–III

Women Inequality: Political Aspects

1. Indian Constitution and Women Rights (Major provisions)
2. Women Rights and Judiciary in India.

UNIT–IV

Women Inequality and Women Movements in India

1. **Women's Movements and Struggle for Women's Rights:** Role of state, women groups and economy.
2. Women Activism, Protests and Civil Society.

SEMESTER–II
PSYCHOLOGY

BASIC PSYCHOLOGICAL PROCESSES–II
(THEORY)

Time: 3 hours **Max. Marks: 100**
Theory Marks: 75
Pass Marks: 35% of the subject **Practical Marks: 25**
(Theory and Practical Separately)

Instructions for the Paper Setters:

Section–A: It will consist of 10 very short answer type questions with answers to each question up to five lines in length. All questions will be compulsory. Each question will carry 1½ marks; total weightage of the section being 15 marks.

Section–B: It will consist of short answer type questions with answers to each question up to two pages in length. Six questions will be set by the examiner and four will be attempted by the candidates. Each question will carry 9 marks: total weightage of the section being 36 marks.

Section–C: It will consist of essay type questions with answer to each question up to five pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two; total weightage of the section being 24 marks. The questions are to be set to judge the candidates' basic understanding of the concepts.

Note:
1. The use of Non–Programmable calculators and Statistical Tables are allowed in the examination.
2. Only one numerical question is to be set either of nine marks (from Section–B) or of twelve marks (from Section–C).

Biological Bases of Behaviour:
Nervous System (Central and Peripheral), Glands (Endocrine and Exocrine), Neuron (Structure and function), Resting and Action Potentials. Synapse, Types of synapse.

Memory: Nature, Encoding, Storage and Retrieval. Types of memory–sensory, short–term and long term.

Motivation and Emotion: Biogenic and Sociogenic motives, instincts, Drives and incentives. Intrinsic–Extrinsic framework. Content Theory, The need Hierarchy model, Conflicts and Frustration. Emotions: Development and Types of emotions. Theories of Emotions (James Lange & Cannon Bard Theory). Physiological Correlates of Emotions.

Personality: Concept of Personality. Theories of Personality (Freud, Allport, Murray, Cattell & Eysenck). Techniques of Assessment (Psychometric and Projective)

Measures of Variability: Meaning and Characteristics of good measure of variability, Measures of variability– Range, Quartile Deviation, Average, Standard Deviation, Variance with their merits and demerits.

Text Books for Reading:

1. Benjamin, Jr. L.T., Hopkings, 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. Aron (2007). *Statistics for Psychology*. Pearson Education, New Delhi.
7. Coon, D.L., & Mitterer, J.O. (2007). *Introduction to Psychology; Gateways to Mind and Behaviour*. Thomson Wadrwoth.
8. Solso, R.L. (2007). *Cognitive Psychology*. Pearson Education, New Delhi.
9. Hall, S.S. & Lindzey (1969). *Theories of Personality*. Wiley Eastern Ltd. New Delhi.
10. Pinel, J.P.J. (2007). *Biopsychology*. Pearson Education, New Delhi.

SEMESTER–II
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 Practicals have to be performed out of the following:

1. Effect of Knowledge of Results on Performance.
2. Measurement of Motivation through drive induction or level of aspiration.
3. Projective techniques–incomplete sentence Blank.
4. Personality Inventory
5. Memory Span.
6. Public opinion survey.

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SEMESTER–II
GEOGRAPHY

PHYSICAL GEOGRAPHY – II: CLIMATOLOGY & OCEANOGRAPHY (THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 70
Practical Marks: 30

Instructions for the Paper Setters:

1. A compulsory question containing 15 short answer type questions will be set covering the whole syllabus. The students will attempt any 10 questions in about 40–50 words each. Each question will carry 3 marks (Total 30 marks).
2. The whole syllabus will be divided into 4 UNITs. Eight questions will be set out of the whole syllabus, 2 from each UNIT. The students will be required to attempt one question from each UNIT. Each question carrying 10 marks. These will be in addition to the compulsory question at serial number 1 (Total 40 marks).
3. Special credit will be given to suitable use of maps and diagrams.

Objective:
The objective of this paper is to acquaint the students with the elements and attributes of climatology and oceanography as climate plays a very vital role in human life and oceans are storehouses of resources.

UNIT–I

Definition of Climatology: Climate and Weather.
Climate: Elements and controls.
Physical structure of the atmosphere and attributes of different layers, Physical and Chemical composition of the atmosphere: Dust particles, vapour particles, active gases, inert gases.
Insolation and Temperature: Horizontal distribution of insolation, factors affecting temperature of a place, vertical and horizontal and annual, seasonal and diurnal distribution of temperature.

UNIT–II

Atmospheric Pressure and Winds Distribution: Atmospheric disturbances (Tropical cyclones, temperate cyclones and anticyclones).
Atmospheric Moisture: Forms of condensation – Cloud, dew, fog and frost. Precipitation forms and types. World patterns of precipitation: Spatial and seasonal.
Climatic Classifications and their Bases: Elementary discussion of Koppen's classification of climates and climatic types.
Role of Climate in Human Life: Atmospheric pollution and global warming – general causes, consequences and measure of control.

UNIT–III

Oceanography: Definition, topography of the ocean basins; continental shelf, continental slope, deep sea plain and oceanic deep.
Features: Trench, trough, oceanic ridge, guyots, seamount. Factors controlling the world patterns of distribution of temperature and salinity in the ocean waters.

UNIT–IV

Movements of Oceanic Waters: Waves and currents. Surface currents of the oceans. Marine Flora, Fauna and Deposits, Corals. Ocean as storehouse of resources for the future.

Recommended Books:

1. Bhutani, Smita: *Our Atmosphere*, Edited by R.C. Chandna, Kalyani Publishers, Ludhiana, Delhi, 2000.
2. Critchfield, H.J.: *General Climatology*, Prentice Hall of India, Private Ltd., New Delhi, 1975.
3. Gross, Grant, M.: *Oceanography: A View of the Earth*, Prentice Hall, New Jersey, 1987.
4. Lal, D.S.: *Climatology*, Chainnya Publishing House, Allahabad, 1989.
5. Mathew, J.R.: *Climatology*, McGraw Hill, New Latest Edition.
6. Monkhouse, F.J.: *The Principles of Physical Geography*, University of London Press, London Latest Edition.
7. Pattersen, S.: *Introduction to Meterorology*, McGraw Hill Book Co., London,Latest Edition.
8. Stringer, E.T.: *Foundations of Climatology*. Subject Publications, Delhi, 1982.
9. Trewartha, G.T.: *An Introduction to Climate*, McGraw Hill Book Co., New Delhi, International Student Edition, 1980.
10. Khan, N.: *An Introduction to Physical Geography*. Concept New Delhi, 2001.
11. King, C.A.M.: *Beaches and Coasts*, E. Arnold, London, 1959.
12. King, C.A.M.: *Oceanography*, E. Arnold, London, Latest Edition.
13. Sharma, R.C. & M. Vatel: *Oceanography for Geographers*, Chetyna, Allahabad 1970.
14. Shepar, F.P. : *Submarine Geology*, Harper & Sons, New York, 1948.
15. Sverdrup, H.U. et.al. : *The Oceans*. Prentice Hall, New Jersey, U.S.A. 1959.
16. Singh, Savinder: *Physical Geography*, Gynodya Parkashan Gorakhpur, 1994.

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SEMESTER–II
GEOGRAPHY

CARTOGRAPHY–II
(PRACTICAL)

Time: 3 Hours **Total Marks: 30**

Written Paper of 3 Hours: 15 Marks
Practical Record (File): 08 Marks
Viva: 07 Marks

Objectives:
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. Knowledge of directions and bearings is essential and an introduction to weather maps is also required.

UNIT–I

Bearings, Enlargement and Reduction:
Direction and Bearings: Plotting of a course, true north, magnetic north, finding true north with the pole star, a watch and a rod; bearing and its conversion.
Enlargement and Reduction: Graphic methods–square and triangle; instrumental methods–Pantographic, Xeroxing photographic.

UNIT–II

Weather Maps:
General Introduction to the study of weather maps, the scheme of weather symbols including Beaufort's scale employed in Indian daily weather maps; weather in India: summer season (period of summer monsoon), winter season, forecasting of weather through the study of weather maps and recent advances in weather forecasting.

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 one. (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, 2000.
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.

Further Readings:

1. Mishra, R.P. & Ramesh, A.: *Fundamental of Cartography*, Concept Publishing Co., New Delhi, 1989.
2. Monkhouse, F.J. and 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.

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
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SEMESTER–II
ECONOMICS

INDIAN ECONOMY

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper-Setters/Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (Each Carrying 2 Marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

UNIT–I

Nature of Indian Economy, Agriculture in India: Nature and Importance of Agriculture, Causes of Decline in Productivity, Sustainable Agricultural Growth. Green Revolution and New Agricultural Strategy, Land Reforms: Need, Implementation and Critical Evaluation, WTO and Indian Agriculture.

UNIT–II

Industry: Performance and Problems of Industrial Development, Public Sector and Private Sector, Privatization of Public Sector Enterprises: Role of Small and Cottage Industries.
Latest Industrial Policy.

UNIT–III

Foreign Trade: Direction and Composition of Exports and Imports Since 1991, Recent Foreign Trade Policy, Balance of Payment Problem. Foreign Capital and Multinational Corporations in India.

UNIT–IV

Features of Population Growth in India, Major Problems of the Economy - Unemployment, Poverty and Inequality, Indian Tax Structure, Centre-State Financial Relations and Inflation.
Planning- Objectives, Strategy, Evaluation of Planning in India. A Brief Idea of Objectives,

Targets, Resources of the Latest Five Year Plan.

Recommended Texts:

1. Mishra and Puri: Inidian Economy, Himalaya Publication House, Mumbai, 2003.
2. Rudder Dutt and: Indian Economy (Latest), S. Sundharam Chand & Co. Ltd., New Delhi, 1998.
3. A.N. Aggarwal: Indian Economy, Vikas Publications, Delhi, 1975.
4. C.D. Wadhwa: Indian Economic Policy (1980), Tata McGraw Hill, Bombay, 1973.

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SEMESTER–II
INDUSTRIAL ECONOMICS

INDUSTRIAL ECONOMICS–II

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters / Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

UNIT–I

Industrial Relations: Concept, approach and organisation.
Theory of Industrial Relations: Dunlop's industrial relation system; Classical Marxist Theory; human relation theory; Pluralism and radical approach.

UNIT–II

Growth, pattern and structure of labour unions in India–achievements and failures.
Nature and Causes of industrial disputes–settlement and prevention mechanism; Role of tripartism.

UNIT–III

Collective Bargaining: Theories, types and role; current trends in collective bargaining.

UNIT–IV

Labour legislation in India with reference to Trade Union Act, 1926; Industrial Disputes Act, 1947, and their contemporary relevance since labour market reforms.

Recommended Texts:

1. Giri, V.V.: Industrial Relations, N.M. Tripathi Asia Publications, Bombay, 1972.
2. Memoria. C.B.: Dynamic of Industrial Relations in India, Himalaya Publishing House, Bombay, 1983.
3. Myers, C.A.: Industrial Relations in India, Asia Publishing House, Bombay, 1970.
4. Ramaswamy, E.A. and U. Ramaswamy: Industrial Relations in India, Macmillan, Delhi, 1978.
5. Punekar, SD.: Labour Welfare, Trade Unionism and Industrial Relations, Himalaya Publishers, Bombay, 1978.
6. Rees, A: Economics of Work and Play.

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SEMESTER–II

QUANTITATIVE TECHNIQUES–II

Time : 3 Hours **Max. Marks: 100**

Instructions for the Paper-Setters/Examiners:
(i) First question consisting of 10 short answer type based upon the entire syllabus, (Each Carrying 2 Marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

UNIT–I

Statistics: Definition, Scope in Economics, Significance, Limitations. Tabulation, Classification and Graphical representation of data (Pie Chart, Bar Diagram, Histogram, Frequency Polygon, Ogive Curve, etc.).

UNIT–II

Concepts and Measures of Central Tendency: Mean, Median and Mode; Concepts and Measures of Relative Dispersion; Concepts and Measures of Skewness and Kurtosis (Stress on numerical examples).

UNIT–III

Correlation Analysis: Introduction, Importance, Karl-Pearson's Coefficient of Correlation, Spearman's Rank Correlation Coefficient, Simple Regression Analysis; Difference between Correlation and Regression, Lines of Regression, Properties of Correlation and Regression Cofficients (Stress on numerical examples).

UNIT–IV

Index Numbers: Concept of Index Number, Purpose Construction & Problems, Laspeyre, Paasche and Fisher's Formulae, Tests of Consistency.
Analysis of Time Series: Definition, Components of Time Series, Measurement of Trend by different methods, Measurement of Seasonal Variations (through ratio to move average method); stress on examples.

Books Recommended:
1. Gupta, S.P.: Statistical Methods (1981).
2. Croxton, Cowden & Klein: Applied General Statistics (1973).
3. Ya-lun-chou: Statistical Analysis (1975)
4. Kapur and Sexena: Mathematical Statistics (1970)
5. Murry, R. Speigal: Theory and Problems of Statistics (1972).

SEMESTER–II
AGRICULTURAL ECONOMICS & MARKETING

AGRICULTURAL MARKETING

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters / Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.

(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

UNIT–I

Marketing: Definition, scope, product, production, selling and marketing concepts, marketing efficiency, farmers and marketing.

UNIT–II

Consumer–market and buying behaviour, trends in population and income distribution variations in food consumption, market segmentation, market integration, market consideration.

UNIT–III

Agricultural Production in India: Farm size, land utilization and cropping pattern, characteristics of producer and production.

Variations in production–seasonal, annual and geographic Marketed and marketable surplus.

UNIT–IV

Agricultural Marketing in India, structure, type and defects, marketing function, processing and standardisation, grading, transportation, distribution and storage, marketing agencies.

Suggested Readings:

1. Cundiff, Still & Goveni, Fundamentals of Modern Marketing.
2. Memoria, C.B., Agricultural Problems of India.
3. Bansil, P.C., Agricultural Problems of India.
4. Rudder Dutt and Sundram, Indian Economy.
5. Indian Council of Agricultural Research, Handbook of Agriculture.
6. S.S. Acharya Marketing of Farm Products.
7. Fundamentals of Agri. Economics, Sadhu & Singh, Himalyan Publishers House, 1996.

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SEMESTER–II

RURAL DEVELOPMENT–II

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters / Examiners:
First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

UNIT–I

Rural Development; Concept and Objectives; Rural Development since Independence; community Development Programme (C.D.P.), National Extension Service (N.E.S.), High Yielding Varieties Programme (H.Y.V.P.), Intensive Agricultural District Programme (I.A.D.P.).

UNIT–II

Small Farmers Development Agencies (S.F.D.A), and Marginal Farmers and Agricultural Labour Agencies (M.F.A.L.A.). Integrated Rural Development Programme (I.R.D.P.), Training of Rural Youth for Self Employment (TRYSEM), National Rural Employment Programme (N.R.E.P.), National Rural Employment Guarantee Act (NREGA).

UNIT–III

Organisation Set up : Ministry of Rural and Agriculture Development at the Central Level Planning and Planning Machinery, Deptt. of Agriculture and Rural Development at the State level.

UNIT–IV

Panchayti Raj : Rural Development, District Administration and Rural Development. Planning at local level, Role of Block Development Officers in rural development.

Books Suggested:

1. Sharma, S.K.: Rural Development Approach Perspective and Strategy, Abhinav Publications, New Delhi.
2. Mehta, S.R.: Rural Development Policies and Programmes.
3. Jain, S.C.: CommUNITy Development and Panchayati Raj in India, NIRD Publications, Hyderabad.
4. Raw, S.K.: Rural Development in India, Some Factors in India, NIRD Publications, Hyderabad.
5. Puri, K.K. and: Local Government in India, Bharat G.S. Brown Pakistan, Jalandhar.

SEMESTER–II
OFFICE MANAGEMENT AND SECRETARIAL PRACTICE (VOCATIONAL)

SHORTHAND (ENGLISH ONLY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 60
Practical Marks: 40

Section–A: The examiner will set 8 short questions from the entire syllabus. The candidate will have to attempt 6 questions out of 8 questions. Each question carrying 2 marks
(6x2=12 Marks)

Section–B: The examiner will set 8 long questions in four parts, 2 questions from each unit. The candidate will have to attempt 4 questions selecting at least one from each unit. Each question carrying 12 marks.
(4x12=48Marks)

UNIT–I

Introduction: Origin of shorthand, with particular emphasis on Pitman shorthand, definition and importance of stenography; qualities of a successful stenographers, writing techniques and materials.
Consonants: Definition, number, forms, classes, size thiness, thickness, directions and joining strokes.

UNIT–II

Vowels, Dipthongs and Diphones:
Vowels: definition, number, sounds, signs, places position of outlines, intervening vowels.
Introduction of upwards downwards strokes in stenography.
Dipthongs: Definition, names, signs, placed, joined dipthongs and triphones.
Diphones: Definition, signs and application.
Use of vowels dipthongs and diphones in plural in stenography.

UNIT–III

Grammalogues and Phonography:
Definition of grammalogues and lopogram, list of grammalogues, punctuation signs, definition of phrase, how a phrase is written, qualities of good phraseogram, list of simple phrases.

UNIT–IV

Circles, Loops and Hooks:
Circle and Loops: size and direction, application in Phraseography, attachement with straight and curved strokes, exception to the use of circle, loops; size and direction.
Initial of Final Hooks: Size & Direction. Application in Phraseology. Attached with straight & curve strokes and their uses with the circles & loops.

Shorthand (Practicals):

1. Repeated practice of consonants, writing each consonant from the text materials with particular attention to their formation, length, angle, size and direction.
2. Repeated practice of vowels, dipthongs, diphones and triphones by copying the text materials and other printed shorthand book and reading the same book.
3. Repeated practice of grammalogues and phrases.
4. Repeated practice on the use of circle, loops and books.
5. Transportation from shorthand into long hand.
6. Dictation from unseen passage.
7. Variety of drills: Reading shorthand from black – board, copying shorthand from black board, cold note reading, delayed writing, students dictate to the class room from shorthand books, two minutes speeches by students, reading printed shorthand matter.

Probable work sites where On the Job Training may be organized:

i) Government Department Offices.
ii) Business/Commercial Organisation.
iii) Industrial Establishments.
iv) Hospitals.
v) Educational Institutions.
vi) Railways, Airlines and other Transport undertakings.
vii) Banking and Insurance Organisation.
viii) Parliament and State Assemblies.
ix) Job work Canters.

This is a tentative list. Principal may be given the complete freedom to select any organisation. However, while selecting the institution, care should be taken to select such institution who show willingness to accept the trainees and have the scope for providing variety of experiences in Office Practice and Stenography area.

Suggested Departments/Section for 'On–the–Job Training' at the end of first year.

Department/Section No. of Weeks

1. Reception /Inward and Outward mail 1
2. Office establishment/filling/office equipment and production 1
3. Stenography work and typing with various executives and section 1
4. Sales, Advertising and Publicity, Stores and Accounts 1

4 Weeks

Suggested Department/Section for the 'On the Job Training' at the end of Second Year.

Department/Section No. of Weeks

1. Private Secretaries of various executives in different Department of the Organisation 1
2. Office establishment/Company Secretary Share Department 1
3. Accounts Department/Time Office/Reception 1
4. Typing Pool/Advertising/Publicity 1

4 Weeks

NOTE: The purpose of the On–the–Job Training is to expose the student to the world of work and provide professional experience in real situation. The student shall have to maintain a diary and submit a detailed report of his activities which shall be certified by a responsible officer of the establishment. However, the teacher will also supervise the 'On–the–Job Training' programme.

Suggested Reading Materials:

a) Shorthand:

Title Publisher:

1. Pitman Shorthand Dictionary A.H. Wheeler & Company.
2. Pitman Shorthand Reading Pitman Shorthand Schools, and Dictation Exercises New Delhi.
3. Shorthand made O.P. Kuthiall easy for beginners with key.
4. How to start shorthand –do– & Edger Thrope Speed building.
5. How to avoid confusion –doin outline in pitman shorthand.
6. A Compelesive List of grammar Languages – & Contractions O.P. Kuthiall.
7. H.A. Mehta Typewriting Mehta Publishing complete course Corporation, Basant Mahal. Wadala (East) Bombay–4000037.
8. H.A. Mehta Typewriting Mehta Publishing Office Practice set Corporation, Basant Mahal. Wadala (East) Bombay–4000037.
9. H.A. Mehta Business Mehta Publishing Letter typing sets Corporation, Basant Mahal. Wadala (East) Bombay–4000037.
10. Typewriting by Md. Khan Chittoor Publishing Dictation Exercises House, Chittoor, A.P.
11. Layouts and Forms in State Board of Technical Typewriting Education, Hyderabad – 500022.
12. 20th Century Typewriting South–Western Publishing Company, Gincinati, Ohio, USA.
13. Typewriting Drills for speed Gregg. Publishing and accuracy Corporation, USA.
14. Principles of Typewriting D.P. Bhatia, S.S. Sangal.
15. Typewriting speed & O.P. Kuthiall & Thorpe Accuracy.
16. Typewriting Theory Practicals R.C. Bhatia.
17. Type writing speed & O.P. Kuthiall Accuracy–B–I.
18. Type writing speed & –do–Accuracy–B–II.

a) Office Practice:

1. Office Practice Made Simple by G. Whitehead, 1974 W.H. Allen Publishers.
2. Office Management and by Balraj Duggal, 1998 Commercial Correspondence Published by Kitab Mahal.
3. Office Management and Gyan Publishing House, Secretarial Practice by Delhi, V.P. Singh.
4. Business Correspondence Thakkar Publication, and Office Practice by Bombay, Nagamia and Bhai.
5. Business Communication by Seth Publication, Doctor & Doctor Bombay – 4.
6. Commercial Correspondence by Majumdar.
7. Modern Commercial by R.S. Sharma Correspondence.
8. Modern Commercial by Chandgadkar & Tele Correspondence.
9. Secretarial Practice by Vikas Publications Pune. H.A. Mehta and others.

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SEMESTER–II

TRAVEL & TOURISM

INDIAN HERITAGE AND TOURIST RESOURCES

Time: 3 Hrs. **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A: The examiner will set 12 short questions, 3 questions from each unit of 02 marks each. The candidate will have to attempt 10 questions out of 12 questions.
(10x2=20 Marks)

Section–B: The examiner will set 8 long questions, 2 questions from each unit of 20 marks each. The candidate will have to attempt 4 questions out of 8 questions.
(4x20=80 Marks)

UNIT–I

Geography and Tourism

Physical features of Indian subcontinent.

Climatic conditions of India.

Natural Resources and Tourism

Wildlife Sanctuaries: Jim Corbett Tiger Reserve,

Bharatpur Bird Sanctuary

National Parks and Natural Reserves of India: Valley of Flowers, Kanha, Kaziranga, Ranthambhore.

UNIT–II

Architectural Heritage.

Overviews of Ancient, medieval and modern forms of architecture.

Important Monuments.

Stupa at Sanchi, Brihadeshwara Temple (Tanjore),

Red Fort (Delhi), Taj Mahal (Agra), Lutyen's Delhi,

Lotus Temple (Delhi).

UNIT–III

Performing Arts

Schools of painting.
Classical dances and dance styles
Folk dances.
Schools of music.
Musical instruments.

Handicrafts and Handlooms

Types of Handicrafts and Handlooms in India.
Major Fairs for Promotion of Handicrafs and Handlooms–Dilli Haar, Central Cottage Industries Emporium, Fab India.

UNIT–IV

Fairs and Festivals

Traditional : Kumbha, Pushkar, Chhatha, Pongal, Holi, Onam, Durga Puja, Ramalila, Diwali, Dashahara (Kullu), Rathyatra, Id–ul–Fitr. Muharram, Christmas.
Modern: Carnival (Goa), Ganga Mahotsava, Taj Mahotsava, Khajuraho Mahotsava and Desert Festival.

Hill Stations and Coastal Tourism

Major Hill Stations: Shimla, Darjelling, Ooty, Gangtok, Gulmarg, Ladhak, Kodikannal
Coasts and Beaches: Beaches of Andaman & Nicobar Islands, Marina Beach (Chennai), Konark Beach (Orissa), Juhu Beach (Mumbai).

Suggested Readings:

1. Harle, J.C., *The Art and Architecture of the Indian Subcontinent*, Penguin Books, 1990.
2. Brown, Perey, *Indian Architecture (Buddhist and Hindu) and (Islamic Period)*, Bombay, 1942 and Calcutta, 1942 respectively.
3. Basham, A.L., *The Wonder that was India*, Rupa and Co., Delhi, 1988.
4. Westlake, Graeme, D., *An Introduction to the Hill Stations of India*, Harper Colins Publishers, India, 1993.
5. Mishra, Lavkush, *Cultural Tourism in India*, Mohit Publications, New Delhi, 1999.
6. Day, C.R., *The Music and Musical Instruments of Southern India and the Deccan*, Delhi, Reprint, 1990.
7. Rele, Kanak, *Indian Classical Dances and the Seven Classical Dance Styles*, A Video Film; Handbook of Indian Classical Dance Terminology, Bombay, 1992.

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SEMESTER–II

TOURISM AND HOTEL MANAGEMENT (VOCATIONAL)

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A: It will consist of 10 very short answer question with answers to each question up to five lines in length . All questions will be compulsory. Each question will carry two marks; total weightage being 20 marks.

Section–B: It will consist of short answer questions with answer to each question upto *two pages* in length. Twelve questions will be set by the examiner and eight will be attempted by the candidate. Each question will carry five marks. The total weightage of the section shall being 40 marks.

Section–C: It will consist of essay type questions with answers to each question upto 5 pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two. Each question will carry 20 marks: total weightage of the section being 40 marks.

UNIT–I

Growth and development of tourism in India

UNIT–II

Definition, nature and characteristics of tourism, Types and components of tourism

UNIT–III

Impacts of Tourism- Socio–cultural impacts, Economic impacts, Environmental impacts

UNIT–IV

Tourism as an industry**;** India a destination for all; Case study of ITDC.

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

Training: One Month

During the summer vacation one month training is a must.

SEMESTER–II
TOURISM AND TRAVEL MANAGEMENT
(VOCATIONAL)

TOURISM PRODUCT OF INDIA

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A: It will consist of 15 questions from the entire syllabus of the paper with answer to each question should up to 50 words. Students will be required to attempt any 10 questions. Each question will carry 2 marks. This section will be of 20 marks

Section–B: It will consist of 8 essay type questions, 2 from each unit–with answer to each question should up to 5 pages. Students will be required to attempt any 4 questions. Each question will carry 20 marks. This section will be of 80marks.

UNIT–I

Tourist Resources: Definition and differentiation, typology of tourism resources
Cultural Resources: Historical Museums of India, Fairs and festivals of India, Customs and Costumes of India.

UNIT–II

Socio Cultural Resources: Historical Monuments of ancient, medieval and modern period, Archaeological sites of India, Art galleries of India, Libraries of India, Religious centres and Shrines of all religions

UNIT–III

Social Cultural Resources: Performing arts of India-Dances, Music, Handicrafts, Yoga and Meditation

UNIT–IV

Natural Tourist Resource: Hill stations of India with special reference to Shimla, Manali, Nainital, Ooty.

Beach Tourism with special reference to Mumbai, Goa and Kerala

Island Tourism with special reference to Andaman and Nicobar Islands

Desert Tourism

Books Recommended:

1. Percy Brown Indian Architecture–Hindu and Budhist period.
2. Harla, J. C. The Art and Architecture of Indian sub continent.
3. Bhartiya Vidya Bhawan Imperial UNITy.
4. Acharya Ram Tourism & Cultural Heritage of India Rousa Publications (Jaipur, 1986).
5. Basham Al. L.The Wonder that was India: Rupa and Co., Delhi, 1988.
6. The Gazettee of India; History and Culture, Vol. 2, Publication Division Ministry of Information & Broadcasting, Government of India, 1988.
7. Hussain, A.A, The National Culture of India, National Book Trust, New Delhi, 1987.
8. Mukerji, R.K.The Culture and Art of India: George Allen Unwin Ltd.; London, 1959.
9. The Treasure of Indian Museums Marg Publications, Bombay.

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SEMESTER–II
TAX PROCEDURE AND PRACTICE (VOCATIONAL)

STATE AND CENTRAL SALES TAX

Time: 3 Hrs. **Max. Marks: 100**

Note: The candidates are allowed to use simple (Non-Scientific) calculators.
Instructions for the Paper Setters:
The following pattern of setting of question paper shall be observed:
The question paper covering the entire course shall be divided into three sections as follows:-

Section–A: This section will consist of 8 very short answer questions with answer to each question upto 5 lines. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 16 marks.

Section–B: This section will consist of short answer questions with answer to each question upto two pages. Nine questions will be set by the examiners and the candidates will be expected to attempted six question. Each question will carry eight marks, total weightage of the section being 48 marks.

Section–C: This section will consist of essay type questions with answers to each question upto 5 pages. Four questions, will be set by the examiner and the candidates will be expected to attempt two questions. Each question will carry 18 marks; total weightage of the section being 36 marks.

UNIT–I

Value Added Tax: Concept and salient features of Value Added Tax (VAT) Act and rules made thereunder, Important terms and definitions.
Incidental and Levy of Tax: when, what and how the tax is paid.

UNIT–II

Registration of Dealers: Compulsory registration; procedure for registration; application for obtaining registration under the prescribed form and requisite fee and security / surety for the purpose of registration and certificate of registration – amendment, cancelling and obtaining duplicate registration certificate and procedure thereof; Return and procedure for Payment, recovery and refund of tax, Offences and Penalties.

UNIT–III

Central Sales Tax: Regulatory framework— An overview of Central SalesTax, 1956; and Central Sales Tax (Registration and Turn over) Rules 1957. Important terms and definitions.
Principles for Determining: When central sales tax is leviable; the concept of sale or purchase of goods in the course of interstate trade or commerce.
When does a sale or purchase of goods take place outside the state; When does the sale or purchase of goods is in the course of import or export.
Registration of Dealers and Procedures Thereof: Grant of Certificate Registration in Form 3. Procedure for amendment, cancellation and obtaining duplicate certificate of registration.

UNIT–IV

Rate of Tax: Concessional rate, kinds of forms for availing the concessional rates and maintenance of records related thereto.
Sales to the registered dealers against Form C.
Purchasers obligations: Procedure for obtaining Form C from Sales Tax authorities and Issuing of form C to dealers.
Application under prescribed form with requisite fee for obtaining Form C. Maintenance of records for receipts and issue of Form C-Form 2.

Sellers Obligations: Obtaining Form C from Purchasers.
Maintenance of records of C Form collected and submission of C Form at the time of assessment.

References:

1. Datey, V.S. (2006), Taxmann's Indirect Taxes Law & Practice, Taxmann Publications Pvt. Ltd., New Delhi.
2. Taxmann's Indirect Tax Laws as amended by Finance Act 2007. Taxmann Allied Services (P) Ltd., New Delhi, 2004.
3. www.income.tax.india.gov.in

'ON THE JOB TRAINING' OF 4 WEEKS

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

1. A consolidated Report on **'On the Job Training'** shall be prepared by every student and must be submitted in the college. The consolidated Report will be evaluated by the external examiner and shall be given the grades as follows:

    O - Outstanding
    A - Very Good
    B - Good
    C - Average
    D – Unsatisfactory

In case, the training report is rated as unsatisfactory, the candidate shall have to submit it again incorporating the changes suggested by the examiner, within one month from the date of intimation to the candidate by the concerned college.

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ADVERTISING SALES PROMOTION AND SALES MANAGEMENT (VOCATIONAL)

	Periods per Week		Marks
	L	T	Ext.
IInd Semester: Advertising–I	3	3	100
On–the–Job Training' of 4 Weeks			

1. A consolidated report on the job training shall be prepared by every student and, must be submitted in the college concerned. The consolidated report will be evaluated by the external examiner and shall be given in the grades as follows :
   O – Outstanding
   A – Very Good
   B _ Good
   C _ Average
   D _ Unsatisfactory

In case the training report as rated as unsatisfactory, the candidate shall have to submitted it again incorporating the changes suggested by the examiner, within one month from the date of intimation to the candidate by the concerned college.

Advertising Sales Promotion and Sales Management
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.

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Economics & Business)

SEMESTER–II
ADVERTISING SALES PROMOTION AND SALES MANAGEMENT (VOCATIONAL)

ADVERTISING–I

Time: 3 Hours **Max. Marks: 100**

Note: The candidates are allowed to use simple (Non–Scientific) calculators.
Instructions for the Paper Setters:

Section–A: This section will consist of 8 very short answer questions with answer to each question upto 5 lines. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 16 marks.

Section–B: This section will consist of short answer questions with answer to each question upto two pages. Nine questions will be set by the examiners and the candidates will be expected to attempted six question. Each question will carry eight marks, total weightage of the section being 48 marks.

Section C: This section will consist of essay type questions with answers to each question upto 5 pages. Four questions will be set by the examiner and the candidates will be expected to attempt two questions. Each question will carry 18 marks; total weightage of the section being 36 marks.

UNIT–I

Importance of advertising in modern marketing. Role of advertising in the national economy.

UNIT–II

Types of advertising: Commercial and noncommercial advertising; primary demand and selective demand advertising; classified and display advertising; comparative advertising' cooperative advertising.

UNIT–III

Setting of advertising objectives, Setting of advertising budget, Factors affecting the, advertising expenditure in a company.

UNIT–IV

Advertising message, Preparing and effective advertising copy; elements of a print copy; headlines, illustration, bodycopy, slogan, logo seal of approval role of colon, elements of a broadcast copy, copy for direct mail.

Suggested Readings:

1. Batra, Rajeev, John G. Myers & David A. Aaker, Advertising Management, 5th ed., PHI, 2006.
2. Rampal, M.K. and S.L. Gupta, Cases & Simulations in Marketing Management, Galgotia Publishing Co., 2000.
3. Belch, George E and Michael A. Batch. Advertising & Promotion, McGraw Hill 2003.

SEMESTER–II
COMMERCE

BOOK KEEPING AND ACCOUNTANCY

Time: 3 Hours **Max. Marks: 100**

Note: The candidates are allowed to use simple (Non–Scientific) calculators.

Instructions for the Paper Setters:

Section–A: It will consist of 10 very short answer questions with answers to each question upto five lines in length. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 20 marks.

Section–B: It will consist of short answer questions with answer to each question upto two pages in length. Twelve questions will be set by the examiner and eight will be attempted by the candidates. Each question will carry six marks; total weightage of the section being 48 marks.

Section–C It will consist of essay type questions with answers to each question upto 5 pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two. Each question will carry sixteen marks; total weightage of the section being 32 marks.

Note: 50% numerical problem should be asked.

UNIT–I

Generally accepted accounting principles, concepts, Convention, theory and practice of Double entry system of book keeping.

UNIT–II

Subsidiary Books and ledger, Trial Balance, Bank reconciliation statement, Errors and their rectifications.

UNIT–III

Preparation of trading profit and loss Account and Balance sheet of sole trader and partnership, treatment of capital and Revenue expenditure.
Preparation of receipts and payments account and income and expenditure accounts.
Bills of exchange.

UNIT–IV

Elementary knowledge of consignment and joint venture, Indian System of book keeping (Mahajani lekha vidhi).

Books Recommended:

1. Bhattacharyya, "Financial Accounting for Business", Prentice Hall of India, 2007.
2. Grewal T.S. "Double Entry Book Keeping", Sultan Chand, 2007.
3. Tulsian P.C. "Financial Accounting", Pearson Education, 2007.
4. Maheshwari S.N. "Financial Accounting", Vikas Publications, 2007.
5. Horngren, "Introduction to Financial Accounting", Pearson Education, 2007.
6. Naryanaswamy, "Financial Accounting: A Management Perspective." Prentice Hall of India, 2007.

Note:

1. The candidates will visit major (trading/ manufacturing/ services) Organisation with view to be acquainted with the different systems of book keeping.
2. The college will organise atleast five lectures by experts/ professional. Accountants on final accounts/maintenance of different books of accounting.

SEMESTER–II
MATHEMATICS

PAPER–I: CALCULUS AND DIFFERENTIAL EQUATIONS

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:
1. Syllabus of this paper is split into two Parts: Section–A and Section–B. Five questions will be set from each Section.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Mathematics would be six periods per week for each paper.

SECTION–A

Asymptotes, Tests for concavity and convexity, Points of inflexion, Multiple Points, Curvature, Tracing of Curves (Cartesian and Parametric coordinates only). Integration of hyperbolic functions. Reduction formulae. Definite integrals. Fundamental theorem of integral calculus. Quadrature, rectification.

SECTION– B

Exact differential equations. First order and higher degree equations solvable for *x,y,p.* Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant and variable coefficients. Variation of Parameters method, reduction method, series solutions of differential equations. Power series method, Bessel and Legendre equations (only series solution).

Books Recommended:
1. D.A. Murray: Introductory Course in Differential Equations. Orient Longman (India), 1967.
2. G.F. Simmons: Differential Equations, Tata McGraw Hill, 1972.
3. E.A. Codington: An Introduction to Ordinary Differential Equations, Prentice Hall of India, 1961.
4. Gorakh Prasad: Integral Calculus, Pothishala Pvt. Ltd., Allahabad.
5. Erwin Kreyszig: Advanced Engineering Mathematics, John Wiley and Sons, 1999.

SEMESTER–II
MATHEMATICS

PAPER–II: CALCULUS

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Syllabus of this paper is split into two Parts: Section–A and Section–B. Five questions will be set from each Section.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Mathematics would be six periods per week for each paper.

SECTION–A

Limit and Continuity of functions of two variables, Partial differentiation, Change of variables, Partial derivatives and differentiability of real–valued functions of two variables, Schwartz's and Young's Theorem, Statements of Inverse and implicit function theorems and applications,

Euler's theorem on homogeneous functions, Taylor's theorem for functions of two variables, Jacobeans, Envelopes. Evolutes, Maxima, Minima and saddle points of functions of two variables, Lagrange's undetermined multiplier method.

SECTION–B

Double and Triple Integrals, Change of variables. Applications to evaluation of areas, Volumes, Surfaces of solid of revolution, Change of order of integration in double integrals.

Books Recommended:

1. Narayan, S.: Integral Calculus. Sultan Chand & Sons.
2. Kreyszig, E.: Advanced Engineering Mathematics.
3. Narayan S.: Differential Calculus, Sultan Chand & Sons.

SEMESTER–II
STATISTICS

PAPER–I: STATISTICAL METHODS – II

Time: 3 Hours **Marks: 35**

Instructions for the Paper Setters:

1. Question paper will consist of two sections Section A and Section B. Each section will consist of five questions, carrying equal marks each, set from corresponding section of the syllabus.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time would be six periods per week for this paper.
4. The candidates are allowed to use Non–Programmable calculators.

SECTION–A

Bivariate data, scatter diagram, covariance, Karl–Pearson's correlation coefficient and its properties, calculation of correlation coefficient from grouped data, bounds of the correlation coefficient, interpretation of the value of the correlation coefficient, Spearman’s rank correlation coefficient.

SECTION–B

The principle of least squares, fitting of straight line, polynomials, exponential, logarithmic curve. Regression lines, relation between correlation coefficient and regression coefficients. Independence and association of attributes, measures of association, contingency table.

Books Recommended:

1. Goon, A.M. Gupta, M.K. and Dasgupta B., Fundamentals of Statistics, Vol. I, World Press, 2005.
2. Gupta, S.C. and Kapoor, V.K., Fundamentals of Mathematical Statistics, Sultan Chand and Company, 2007.

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–II
STATISTICS

PAPER-II: PROBABILITY DISTRIBUTIONS

Time: 3 Hours **Marks: 35**

Instructions for the Paper Setters:

1. Question paper will consist of two sections, Section A and Section B. Each section will consist of five questions, carrying equal marks each, set from corresponding section of the syllabus.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time would be six periods per week for this paper.
4. The candidates are allowed to use Non–Programmable calculators.

Section–A

Discrete Distributions: Uniform distribution, Bernoulli distribution, Binomial distribution, Poisson distribution, Poisson distribution as limiting form of Binomial distribution, Fittings of Binomial and Poisson distributions, Geometric distribution, Pascal distribution and Hyper geometric distribution. Properties, expected value, variance and moment generating functions of these distributions.

Section–B

Continuous Distributions: Normal distribution, Fitting of normal distribution, Exponential distribution, Uniform distribution, Gamma distribution, Beta distribution. The properties of these distribution including their expected values, variances and moment generating functions

Books Recommended:

1. Meyer, P.L. Introductory Probability and Statistical Applications, Addison—Wesley, (1970).
2. Hogg. R.V., Mcken, J.W. and Craig. A.T., Introduction to Mathematical Statistics, Pearson Education, 2007.

Books Suggested for Supplementary Reading:

1. Biswal, P.C., Probability and Statistics, Prentice Hall, India, 2007.
2. Ross, S.A. First Course in Probability, Sixth Edition, Pearson Education, 2007.
3. Miller, I, and Miller, M. Mathematical Statistics with Applications, Seventh Edition, Pearson Education, 2007.

SEMESTER–II
STATISTICS

PAPER-III: - Practical based on PAPER–I: STATISTICAL METHODS–II and PAPER-II: PROBABILITY DISTRIBUTIONS

Time: 2 Hours **Marks: 30**

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

List of practical exercises

1. Exercises on calculation of Karl Pearsons correlation coefficient
2. Exercises on calculation of Spearman's rank correlation coefficient
3. Exercises on fittings of regression lines, polynomials, exponential and logarithmic curves.
4. Exercises on fittings of Binomial, Poisson and Normal Distributions
5. Exercises on calculation of probabilities for Binomial, Poisson and Normal Distributions

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 other 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–II
CHEMISTRY

INORGANIC CHEMISTRY–II
(THEORY)

Time: 3 Hrs.
45 Hrs. (3 Hrs./Week) **Marks: 35**

The question paper shall consist of two parts as detailed below:–

Part A:- (Compulsory)

It shall consist of 8 very short answer type questions (Q. Nos. 1 to 8) from the entire syllabus and the maximum length of each question may not exceed 1/3rd of the page. Each question will be carrying one mark. **8 x 1 = 8 Marks**

Part B:-

It shall consist of three sections (Section I, II & III). It shall consist of 9 questions (Q. Nos. 9 to 17) from the entire syllabus. Each Section will consist of 3 questions from each UNIT–of syllabus. The maximum length of each question may not exceed 5 pages. The candidate will attempt two questions from each section. Each question will be carrying 4½ marks.

6 x 4½ = 27 Marks

SECTION–I

I. p–Block Elements–I **15 Hrs.**

Comparative study (including diagonal relationship) of groups 13–17 elements, compounds like hydrides, oxides, oxyacids and halides of groups 13–16, hydrides of boron–diborane and higher boranes, Borazine, borohydrides, fullerenes.

SECTION–II

II. s-Block Elements **15 hrs.**

Comparative studies, diagonal relationship, salient features of hydrides, salvation and complexation tendencies.

III. p–Block Elements-II

Carbides, fluorocarbons, silicates (structural principle), tetrasulphur tetranitride, basic properties of halogens, interhalogens and polyhalide **,** Silicones and phosphazenes as examples of inorganic polymers, nature of bonding in triphosphazenes.

IV. Acids and Bases

Arrhenius, Bronsted-Lowry, the Lux-Flood, solvent system and Lewis concepts of acids and bases.

SECTION–III

V. Chemistry of Transition Elements **15 Hrs.**

Characteristic properties of *d*–block elements. Properties of the elements of the first transition series, their simple compounds and complexes illustrating relative stability of their oxidation states, coordination number and geometry. General characteristics of elements of Second and Third Transition Series, comparative treatment with their *3*d analogues in respect of ionic radii, oxidation states, magnetic behaviour.

SEMESTER–II

CHEMISTRY

PHYSICAL CHEMISTRY–I
(THEORY)

Time: 3 Hrs. **Marks: 35**
45 Hrs. (3 Hrs./Week)

The question paper shall consist of two parts as detailed below:–

Part A:- (Compulsory)
It shall consist of 8 very short answer type questions (Q. Nos. 1 to 8) from the entire syllabus and the maximum length of each question may not exceed 1/3rd of the page. Each question will be carrying one mark. **8 x 1 = 8 Marks**

Part B:-
It shall consist of three sections (Section I, II & III). It shall consist of 9 questions (Q. Nos. 9 to 17) from the entire syllabus. Each Section will consist of 3 questions from each UNIT–of syllabus. The maximum length of each question may not exceed 5 pages. The candidate will attempt two questions from each section. Each question will be carrying 4½ marks.
6 x 4½ = 27 Marks

Note: Log table and scientific calculators are allowed

SECTION–I

I. Gaseous States **15 Hrs.**

Postulates of kinetic theory of gases, deviation from ideal behaviour, van der Waal's equation of state.

Critical Phenomena: PV isotherms of real gases, continuity of states, the isotherms of van der Waal's equation, relationship between critical constants and van der Waals constants, the law of corresponding states, reduced equation of state.

Molecular Velocities: Root mean square, average and most probable velocities. Qualitative discussion of the Maxwell's distribution of molecular velocities, collision number, mean free path and collision diameter. Liquefaction of gases

SECTION–II

II. Liquid State **10 Hrs.**

Intermolecular forces, structure of liquids (a qualitative description). Structural differences between solids, liquids and gases. Liquid crystals: Difference between liquids crystal, solid and liquid.Classification, structure of nematic and cholestric phases.

Thermography and seven segment cell.

III. Colloidal State **5 Hrs.**

Definition of colloids, classification of colloids. Solids in liquids (Sol): kinetic, optical and electrical, properties, stability of colloids,protective action, Hardy Schulze law, gold number. Liquids in liquids (emulsions): Types of emulsions, preparation. Emulsifiers. general applications of colloids.

SECTION–III

IV. Solutions, Dilute Solutions and Colligative Properties **15 Hrs.**

Ideal and non–ideal solutions, methods of expressing concentrations of solutions, activity and activity coefficient. Dilute solution, colligative properties, Raoult's law, relative lowering of vapour pressure, molecular weight determination. Osmosis, Law of osmotic pressure and its measurement, determination of molecular weight from osmotic pressure. Elevation of boiling point and depression of freezing point, Thermodynamic derivation of relation between molecular weight and elevation in boiling point and depression in freezing point. Experimental methods for determining various colligative properties. Abnormal molar mass degree of dissociation and association of solutes.

SEMESTER–II
CHEMISTRY

(PRACTICAL)

Duration: 3½ Hrs. **Marks: 30**
6 Period/Week

Crystalisation:

Concept of indication of crystalisation. Phthalic acid from hot water (using fluted filter paper & stem less funnel)

Acetanilide from boiling water.

Naphthalene from Ethanol

Benzoic acid from water

Physical Chemistry

1. To determine the specific reaction rate of hydrolysis of ethyl acetate catalysed by Hydrogen ions at room temperature.
2. To study the effect of acid strength on hydrolysis of an ester.

Viscosity, Surface Tension (Pure Liquids)

3. To study the viscosity and surface tension of CCI glycerine solution in water.
4. To determine the solubility of benzoic acid at different temperatures and to determine ΔH of the dissolution process.
5. To determine the enthalpy of neutralisation of a weak acid/weak base versus strong base/strong acid and determine the enthalpy of ionisation of the weak acid/weak base.
6. To determine the enthalpy of dissolution of solid calcium chloride and calculate the lattice energy of calcium chloride from its enthalpy data using Born Haber cycle.

Practical Examination:		**Marks**
1)	Crystalisation	05
2)	Physical Experiment	18
3)	Viva–Voce	04
4)	Note Book	03

SEMESTER–II

PHYSICS
PAPER–A: RELATIVITY AND ELECTROMAGNETISM
(THEORY)

Time: 3 Hours **Marks: 35**
Total Teaching Hrs: 45(3h/week)
Pass Marks: 35%

Instructions for the Paper Setters:

There will be five sections. Section A will consist of seven short answer type questions covering the whole syllabus and is compulsory. Sections B, C, D and E will consist of two questions each. The candidates are required to attempt one from each section. All questions carry equal marks.

UNIT–I

Postulates of special theory of relatively. Lorentz transformations, observer and viewer in relativity. Relativity of simultaneity, Length, Time, velocities. Relativistic Dopper effect. Variation of mass with velocity, mass–energy equivalence, rest mass in an inelastic collision, relativistic momentum & energy, their transformation, concepts of Minkowski space, four vector formulation.

UNIT–II

Lorentz's force, Definition of B. Biot Savart's Law and its application to long straight wire, circular current loop and solenoid. Ampere's Circuital law and its application. Divergence and curl of B.Hall effect, expression and co–efficient. Vector potential, Definition and derivation, current–density–definition, its use in calculation of charge in magnetic field at a current sheet. Transformation equation of E and B from one frame to another.

UNIT–III

Faraday's Law of EM induction, Displacement current, Mutual inductance and reciprocity theorem. Self inductance, L for solenoid, Coupling of Electrical circuits. Analysis of LCR series and parallel resonant, circuits Q–factor, Power consumed, power factor.

UNIT–IV

Maxwell's equations their derivation and characterizations, E.M. waves and wave equation in a medium having finite permeability and permitivity but with conductivity =). Poynting vector, Impedance of a dielectric to EM waves. EM waves in a conducting medium and Skin depth. EM wave velocity in a conductor and anomalous dispersion. Response of a conducting medium to EM waves. Reflection and transmission of EM waves at a boundary of two dielectric media for normal and oblique incidence.

Recommended Books:

1. Introduction to Electrodynamics - D.J. Griffiths-Pearson Education Ltd., New Delhi, 1991
2. Physics of Vibrations and Waves by H.J. Pain.
3. EM Waves and Radiating Systems by Edward C. Jordan and K.G. Balmain.
4. Fields and Waves Electromagnetic by David K. Cheng.

SEMESTER–II

PHYSICS

PAPER–B: VIBRATION AND WAVES (THEORY)

Time: 3 Hours **Marks: 35**
Total Teaching Hrs: 45(3h/week)
Pass Marks: 35%
Instructions for the Paper Setters:

There will be five sections. Section A will consist of seven short answer type questions covering the whole syllabus and is compulsory. Sections B, C, D and E will consist of two questions each. The candidates are required to attempt one from each section. All questions carry equal marks.

UNIT–I

Simply harmonic motion, energy of a SHO. Compound pendulum. Torsional pendulum Electrical Oscillations Transverse Vibrations of a mass on string, composition of two perpendicular SHM of same period and of period in ratio 1:2.

UNIT–II

Decay of free Vibrations due to damping. Differential equation of motion, types of motion, types of damping. Determination of damping co–efficient– Logarithmic decrement, relaxation time and Q–Factor. Electromagnetic damping (Electrical oscillator).

UNIT–III

Differential equation for forced mechanical and electrical oscillators. Transient and steady state behaviour. Displacement and velocity variation with driving force frequency, variation of phase with frequency, resonance. Power supplied to an oscillator and its variation with frequency. Q–value and band width. Q–value as an amplification factor. Stiffness coupled oscillators, Normal co–ordinates and normal modes of vibration. Inductance coupling of electrical oscillators.

UNIT–IV

Types of waves, wave equation (transverse) and its solution characteristic impedance of a string. Impedance matching. Reflection and Transmission of waves at boundary. Reflection and transmission of energy. Reflected and transmitted energy coefficients. Standing waves on a string of fixed length. Energy of vibration string. Wave and group velocity.

Recommended Books:

1. Fundamentals of Vibrations and Waves by S.P. Puri.
2. Physics of Vibrations and Waves by H.J. Pain.

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Sciences)

PHYSICS
SEMESTER–II

(PRACTICAL)

Marks: 30

General Guidelines for Practical Examination:

I. The distribution of marks is as follows :

i) One experiment	15 Marks
ii) Brief Theory	5 Marks
iii) Viva–Voce	5 Marks
iv) Record (Practical file)	5 Marks

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 determine low resistance with Carey-Foster's Bridge.
2. To study the magnetic field produced by a current carrying solenoid using a search coil and calculate permeability of air.
3. To study the induced e.m.f. as a function of the velocity of the magnet.
4. Study of phase relationships using impedance triangler for LCR circuit and calculate impedance.
5. Resonance in a series and parallel LCR circuits for different R–value and calculate Q–value.
6. Capacitance by flashing and quenching of a neon lamp.
7. Measurement of capacitance, determination of permittivity of a medium air and relative permittivity by de–Sauty's bridge.
8. To determined L using Anderson Bridge.
9. To find the value of B_H the horizontal component of earth's magnetic field in the lab using a deflection & vibration magnetometer.

1. To study the variation of magnetic field with distance along the axis of coil carrying current by plotting a graph.

SEMESTER–II
B.SC. GEOGRAPHY (GEOPHYSICS)

GEOPHYSICS–II (GEODYNAMICS)
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Total Teaching Hrs: 70 **Theory Marks: 70**
Pass Marks: 35% **Field Training Marks: 30**

Instructions for the Paper Setters:

There will be five sections. Section A will consist of seven short answer type questions covering the whole syllabus and is compulsory. Sections B, C, D and E will consist of two questions each. The candidates are required to attempt one from each section. All questions carry equal marks.

UNIT–I

Composition, shape, size, mass and density of the earth. Various discontinuities in the earth. The variation of temperature, density, pressure and elastic parameter with depth in the earth. Seismic waves and interior of the earth. Mineralogical and chemical composition of the crust, mantle and core.

UNIT–II

Introduction to geochronology, closed and open system, uranium–lead, thorium–lead and lead–lead method of dating minerals and rocks, Rubidium–strontium, potassium–argon and fission tracks dating of rocks.

UNIT–III

Major sources of heat inside the earth since the time of accretion. Radioactive heating in the earth, distribution of long lived radioactive elements in crustal rocks. Measurement of continental and sub oceanic heat flow. Importance of heat flow studies. Thermal history of the earth.

UNIT–IV

Concept of plate and plate motion, Types of continental margin, transform faults, triple junction, Geodynamics of Indian plate, Formation of Himalayas.

Text & Reference Books:

1. The solid earth introduction of global geophysics by C. Fowler.
2. Interior of the earth by H.P. Bott.
3. Physics of the earth by F.D. Stacey.
4. Platetectonics and crustal evolution by Kent C. Condie.
5. Earth's age and geochronology by D. York and R.M. Farquhar.
6. Introduction to geophysics by Howell.
7. Geodynamics of India and Pakistan by R.K. Verma.
8. Physics and Geology by Jacobs, Russell and Wilson.

FIELD TRAINING

Marks: 30

Teaching Hrs. 35

SEMESTER–II
HOME SCIENCE
(THEORY)

FAMILY RESOURCE MANAGEMENT AND PHYSIOLOGY

Max. Marks: 100
Time: 3 Hours **Theory Marks: 60**
Practical Marks: 40

Instructions for the Paper Setters:
The question paper will consist of five sections A, B, C, D and E. Section A, B, C, D will have two questions each from the respective sections of the syllabus & Candidates are required to attempt one question from each section. Section E is Compulsory of 12 marks consist of 6 short type questions which will cover the entire syllabus uniformly.

SECTION–A

Meaning & Definition of Home Management. Steps in management process
Furniture: Basic considerations while selection of furniture.
Flower Arrangement: Types, Essential equipment used in flower arrangement, Selection of material, Application of elements and principles of Art in Flower Arrangement

SECTION–B

Resources: Classification of resources, Human & Nonhuman, Factors affecting the use of resources.
Money Management: Types of income, Budget, its advantages and limitations.
Planning of Budget
Means of supplementing family income.
Time: Steps in making plans, tools in time management—peak loads, work curves, rest periods.
Energy Management:
Introduction
Fatigue—types causes and effects of fatigue
c) Principles of work simplification

SECTION–C

1. Circulatory System
Blood and its composition
Coagulation of blood
Structure and functions of heart.
Digestive System: Structure and functions of the alimentary canal.

SECTION–D

Reproduction system–male and female sex organs and their functions.
Structure & Functions of lungs, kidney & skin.

SEMESTER–II
HOME SCIENCE
FAMILY RESOURCE MANAGEMENT
(PRACTICAL)

Time: 3 Hrs. **Marks: 40**

1. Cleaning of window pane, Refrigerator, Food Processor, Microwave, Gas Burner, Cooking Range.
2. Flower Arrangements– Fresh & Dry Arrangement.
3. Table Manners, Table setting and Napkin Folding.
4. Craft workshop – Glass Painting, pot painting, utility article like bag, magazine holder pot holder etc.
5. To prepare any article using the above techniques.

Instructions for the Practical Examiner:

There will be 2 questions from the syllabus.

a. Fresh flower arrangement-10 marks
b. Preparation of utility/decorative article-15 marks
c. Files and schemes -10 marks
d. Viva -5 marks

SEMESTER–II
COSMETOLOGY (VOCATIONAL)
(THEORY)

Time: 3 hrs. **Total Marks: 100**
Periods/Week-6 **Theory Marks: 40**
Practical Marks: 60

Instructions for Paper Setter:

Note: Question Paper will consist of 3 sections follows:-

Section A - It will consist of 10 objective questions carrying 1 mark each. All questions are compulsory.

Section B - It will consist of 7 short questions of 4 marks each. Students will attempt 4 questions.

Section C - 4 questions will be set by the examiner and candidate will be required to attempt any 2 and each question will carry 7 marks.

Content

1. Nail
a) Structure of nail
b) Disorder and Disease of the nails

2. Colours
a) Basic knowledge of colours: Primary & Secondary.
b) Colours, effects and selection acc. To season and occasion.
c) Planning of wardrobe and acc. To figure, complexion, occupation and weather.

3. Visual Poise
Corrective stance, standing, walking, sitting.

4. Yoga
a) What is Yoga?
b) Role of Yoga for a good health.

SEMESTER–II
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. Nails and Hand care:
a) Plain Manicure
b) Manicure Pedicure
c) Pedicure Spa
d) Artificial Spa
e) Waxing, Threading

2. Yoga Asanas:
a) Guide line for Yoga practice
b) Asanas:
   i) Virbhadrasana
   ii) Tar Asana
   iii) Dhanurasansa
   iv) Padmasana
   v) Bhujangasana

SEMESTER–II
CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

PAPER–A: MEAL MANAGEMENT
(THEORY)

Time-3 hrs **Marks: 40**
Pds-4/Week

INSTRUCTIONS FOR THE PAPER SETTER:

- Theory paper will be of 3 hrs duration.
- Question paper should cover all the topics of the syllabus.
- There will be 8 questions in all (8 marks for each question)
- The Student need to attempt 5 questions.
- Question 1 is compulsory. This contains short answer type questions.

OBJECTIVE:

To enable the students to acquire knowledge of the principles of planning diets for various age groups and socio-economic levels.

UNIT–I

1. Balanced diet: Concept of Balanced Diet, Food Groups, Exchange Lists, Definition and Objectives of RDA, RDA for different age groups. (ICMR)
2. Caloric consumption units in planning meals for a family.

UNIT–II

3. Meal planning: Introduction and Principles of Meal planning.

UNIT–III

4. Physiological changes and nutritional requirement during pregnanacy and lactation.
5. Growth & development and nutritional requirement during infancy breast feeding /vs bottle feeding and weaning, immunization schedule.
6. Growth & development, food habits and nutritional requirement of preschooler, school going and adolescent boy and girl.
7. Nutritional requirement for adult male&female (Sedentary, moderate & heavy worker).
8. Physiological changes during old age and meeting their nutritional requirement.

UNIT–IV

9. Food Preservation: Definition, Importance & Principles, Causes of food Spoilage.
10. Household methods of preservation – Pickling Sun drying, Jams, Squash.

SEMESTER–II
CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

MEAL MANAGEMENT
(PRACTICAL)

Time-3 hrs **Marks: 20**
Pds- 6 Pds/Week

Note: Paper will be set on the spot by the Examiner
Instructions for the Paper Setters:

1. One dish of any cooking method. (5 Marks)
2. Preservation (5 marks)
3. Recipe file. (5 Marks)
4. Viva (5 Marks)

Practical:

- Planning, preparation and calculation(using exchange list, detail calculation of protein, energy & one essential mineral or vitamin needed for that group) of diets for:
  (a) Infancy-weaning food.
  (b) Pre-school.
  (c) School going child.
  (d) Adolescent girl and boy
  (e) Adult male female (sedentary moderate and heavy worker)
  (f) Pregnant and lactating Women
  (g) Old Age

Preparation of dishes by following methods:

a) Baking- e.g. Cakes & Biscuits, Continental dishes etc.
b) Grilling- e.g. Pizza and variation of sandwiches, grilled and tandoori snacks etc.
c) Sprouting & Salads.
d) Microwave cooking
e) Preservation: jams, pickles, squashes, chutneys, etc

Daily and occasional cleaning of kitchen equitments, utensils counters, floor and cupboards.

References:

1. Guthrie, Helen, Andrews, Introductory Nutrition 6th ed. 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.
4. Willson, EVAD Principles of Nutrition 4th ed, New York, John Willey & Sons, 1979.

SEMESTER–II
CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

PAPER–B: FOOD MICROBIOLOGY
(THEORY)

Time-3 hrs **Marks: 40**
Pds-6 Pds/Week

INSTRUCTIONS FOR THE PAPER SETTERS:

- Theory paper will be of 3 hrs duration.
- Question paper should cover all the topics of the syllabus.
- There will be 8 questions in all (8 marks for each question)
- The Student need to attempt 5 questions.
- Question 1 is compulsory. This contains short answer type questions.

OBJECTIVE

- To help students to acquire knowledge about microorganism.
- To develop an understanding of the role of microorganism in environment, industry and Maintenance of health.

COURSE CONTENT

1. Introduction to microbiology and its relevance to everyday life. General Morphology of Microorganism general characteristics of bacteria, fungi, virus, protozoa, alges.

2. Control of microorganism growth curve, effects of environmental factors on growth of Microorganism - Ph. water activity, oxygen availability, temp and others.

3. Microbiology of different foods- Spoilage and contamination sources types effect on the Following.

   a) Cereals and cereal products
   b) Sugar and Sugar products
   c) Vegetable and fruit
   d) Meat and Meat products
   e) Fish and other sea foods.
   f) Eggs and poultry
   g) Milk and Milk products
   h) Canned foods.

4. Environmental microbiology- water, air, soil and sewage other agent of contamination humans, domestics animals, vermins, birds, harmones, antibiotics, chemical and metal contamination.

5. Microbial intoxications and infections sources of contamination of foods, toxin production and physiological organism- Symptoms and methods of control.

6. Beneficial effects of micro organism.

7. Relevance of Micro Biological standards for food safety.

REFERENCES:

1. Frazier, W.C., Food Microbiology. 4th Ed, 2006. McGraw Hill, New York.
2. Blackburn, Food Spoilage Microorganism, 3rd edition, 2006, Wood Heal, New York.

SEMESTER–II

FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)
FASHION DESIGNING–II
(THEORY)

Time: 3 Hrs. **Max. Marks: 100**
Periods/week: 3 **Theory Marks: 40**
Practical Marks: 60

Instructions for the Paper Setters:

Eight questions will be set. Students are required to attempt any 5 questions, carrying 8 marks each.

1. (a) **Concept of Fashion forecasting**- Awareness factor, Measurements and Indicators.
(b) **Sources of Inspiration**.

2. **Size and structure of Fashion Market**

3. Concept of Fashion Merchandising and Visual Merchandising.

4. Promotion of Fashion.
(a)Advertising.
(b)Publicity.
(c)Fashion show.

5. **Concept of Fashion Distribution**
(a) Departmental store
(b) Speciality store
(c) Chain store
(d) Mill showroom
(e) Factory Outlets
(f) Catalogue Retail
(g) Discount store
(h) Designer retail store
(f) Franchise retail store
(j) Boutique

SEMESTER–II
FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)
SCALE DRAWING AND GARMENT CONSTRUCTION
(PRACTICAL)

Time: 5 Hrs. **Marks: 60**
Periods/week: 2x6

Instructions for the Paper Setters:

1. Construction of any one garment from Section A. **Marks: 25**
2. One question from Part B. **Marks: 25**
3. File Work. **Marks: 10**

SECTION–A

1. Make a Sample of 10 embroidery stitches: Stem, Chain, Cross, Satin, Herringbone, Lazy–daisy, Bullion, French Knots, Fly stitch, Feather stitch.
2. Design, Draft and construct the following:
   a) Romper/Sun Suit
   b) Designer Frock (3–6 yrs)

SECTION–B

3. Using any of the following details drape the fashion figures, preparing 10 sheets in all using Textured backgrounds.
   (i) Bias/Drapes
   (ii) Yokes + Waistlines
   (iii) Bows + Pockets
   (iv) Drawstrings + Fasteners + Zips
   (v) Trimming (Tucks, Piping, Embroidery, Tassels, Rouleau, Smocking, Shirring, Appliqué, Patch work).
   (vi) Tops
   (vii) Accessories–Bags, Footwear, Jewellery.

4. a) Value Chart, Intensity chart
   b) Basic Design Motifs– Geometrical, Traditional, Abstract.

SEMESTER–II

EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL) (THEORY)

Time: 3 Hrs. **Max. Marks: 100**
Periods/week: 6 **Theory Marks: 60**
Practical Marks: 40

Instructions for the Paper Setters:
Ten questions will be set, students are required to attempt any 6 questions, carrying 10 marks each.

1. **Physical Development**: Definition, Principles of Physical Development, Physical Growth Cycles, Factors affecting Physical Growth Cycles.

2. **Motor Development**: Definition. Motor Skills (hand and leg skills), Factors affecting Motor skills, Importance of Motor Skills.

3. **Social Development**: Definition, Social Development during Infancy & Childhood, Role of Family & School in socialisation of child.

4. **Emotional Development: Definition**: Emotional Development during Infancy & Childhood, Temper Tantrums, Factors affecting Emotional Development.

5. **Language Development**: Importance of Speech, Factors affecting Language Development.

6. **Play**: Meaning & Importance of Play, Selection of suitable toys & Play Material for the child.

SEMESTER–II

EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL)
(PRACTICAL)

Time: 3 Hrs **Marks: 40**
Periods/week: 4

Instructions for the Paper Setters:
Question Paper will be set on the spot by the examiner

Distribution of marks for practical examination

Written Practical:	10 Marks
Class Performance:	10 Marks
Practical File:	5 Marks
Oral examination:	5 Marks
Preparation of activity material:	10 Marks

Course Content:

1. Conduct a Height/ Weight Survey on a sample of 25 School going children assessing their physical development.
2. Conduct a Case Study on a School going Child assessing his Motor Development, Social Development, Emotional Development and Language Development.
3. Prepare an Educational Toy suitable for a pre–school/ school going child.
4. Prepare a toy using house–hold material.
5. Exhibit appropriate safety measures for the child using posters or leaflets

SEMESTER–II
FOOD SCIENCE AND QUALITY CONTROL (VOCATIONAL)

FSQC (3): FOOD MICRO BIOLOGY
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:
Question paper will cover both the main topics and divided into three parts. Each part will contain atleast two questions and students will be asked to attempt five questions in all with atleast two from each part and not more than two from any part.

Periods

PART–I

1. Microbiology of air, water, food products. 2
2. The relationship of Microorganisms to sanitation, role of microbiology environmental effects of Microbiology growth. 5

PART–II

3. Other food hazards—chemicals, antibiotics, hormones, metals contamination poisonous foods. 3
4. Importance of personal hygiene of handler—habits–clothes, illness, Education of handler in handling and service food.
   Safety in food procurement, storage, handling and preparation, control of spoilage—safety of left of left owen foods.

PART–III

5. Cleaning methods—sterlisation and disinfection–products and methods—use of detergents, heat, chemicals tests for sanitiser strength.
6. Sanitation—kitchen design equipment and systems structure and layout of food, presses maintaining clean environment. Selection and installing equipment cleaning equipment.
   Waste product handling. Planning for waste disposal. Solid wastes and liquid wastes and its treatment.
7. Control of infestation
   Rodent Control—Rats, Mice Rodent, profine, destruction, Vector control. Use of pesticides
8. Food Sanitation, control and inspection—planning and Implementation of training programmes for health personal.

References:

1. Jacob, M. (1989) Safe Food Handling, Training Guide for Manager, WHD, Geneva, Marriott, N.G., (1989).
2. Principles of Food Sanitation–II Edition, AVI Book, Van Noistrand Reinhold, New York.
3. Hobbs, B.C. and R.J. Gilbert (1978) Food Poisoning and Food Hygiene, 4th Edition. The English Language Book Society and Edward Arnold (Publishers) Ltd.,
4. Longree K. (1967), Quantity Food Sanitation, Interscience Publishers, New York.
5. Kawata, K. (1963), Environmental Sanitation in India, Lucknow Publishers, New York.
6. Minor L.J. (1983) Sanitation, Safety and Environmental Standard, AVI Publishing Co., Westport, Connecticut.
7. Frazier, W.C. “Food Microbiology”, 4th Ed. 1988, McGraw Hill, New York.
8. Kawata K. “Environmental Sanitation in India” 1963, Lucknow Publ. House.
9. Pelezar H.J. and Rober, “Microbiology”, 2nd Ed. 1968, McGraw Hill, New York.
10. Banwart G. T. “Basic Food Microbiology”, 1987, CBS Publ., New Delhi.
11. Jay, J.H., “Modern Food Microbiology,” CBS Pub., New Delhi.

SEMESTER–II
FOOD SCIENCE AND QUALITY CONTROL

FSQC–4 FOOD MICROBIOLOGY (PRACTICAL)

Marks: 25

List of Practicals:–

1. Instruments of microbiology laboratory and their functions.
2. Sterilization techniques
   (a) Dry heat
   (b) Moist heat
   (c) filtration
   (d) Irradiations.
3. Preparation of medias, agar stants, plates, broth.
4. Serial dilution techniques.
5. Cell count by heamocytometer (DMC) in the given food sample.
6. Techniques for isolation and enumeration of micro organisms.
   (a) Culture transfer technique.
   (b) Spread plate technique.
   (c) Steak plate technique.
   (d) Cultural characteristics of microorganisms.
7. Gram Staining of Bacteria.
8. Isolation of amyloytic, Proteolytic & acid producing bacteria from the given sample.
9. To measure the cell size: ocular micrometer and stage micrometer.
10. Bacteriological analysis of water sample.
11. Bacteriological analysis of milk and milk product.
12. Microbial analysis of cereal products.
13. Microbiology of egg.
14. Bacteriological analysis of Tamato products.
15. Microbiology of meat.

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Visual Arts & Performing Arts)

SEMESTER–II
FINE ARTS

PAPER–A: FINE ARTS (DRAWING & PAINTING)
(THEORY)

Max. Marks: 100
Time: 3 Hrs. **Theory Marks: 50**
Practical Marks: 25+25

Work Load:

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

Note: Instructions for the Paper Setters:

(a) The question paper will cover the entire syllabus.

(b) Questions should be based on world famous painting and sculptures whose slides are easily available.

(c) Question paper should cover the syllabus uniformly.

(d) The paper setter should set the paper in two sections, A and B.

(e) The division of the marks will be as under:

Section–A: 25 marks for 25 objective questions. Each question carries 1 mark.

Section–B: 25 marks for 5 questions. The examiner will set 8 questions. The candidate will attempt 5 questions of 5 marks each.

HISTORY OF INDIAN PAINTING

1. **Mauryan Sculptures:**

   Lion Capital of Sarnath

   Bull Capital from Rampurva

   Yakshi from Didarganj

   Yaksha from Parkham

2. **Bharhut Sculptures:**

Dream Of Queen Maya

Cholakoka Devata

3. **Sanchi Stupa (**Eastern Gate**):**

Ruru Jataka

4. **Kushana Period:**

(A) Mathura Art

(i) Portraits–Kanishka and Vima Kadaphises

(ii) Seated Buddha from Katra

(iii) Head of Buddha

(B) Gandhara Art

(i) Standing Bodhisattava

SEMESTER–II
FINE ARTS

PAPER–B: STILL LIFE STUDY
(PRACTICAL)

Time: 5 Hrs **Marks: 25**

Work Load:

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

Study different type of still objects. Emphasis should be given to Proportion, Volume, Texture and light and shade.

Number of Objects: Three excluding drapery.

Medium: Any Medium

Size: ½ Imperial

SEMESTER–II
FINE ARTS

PAPER–C: HEAD STUDY (MALE/FEMALE)
(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 skulls and Anatomy of human head.

Medium: Charcoal or Pencil

Size: ½ Imperial

Candidates will submit:–

5 sheets of each paper.

(i) Sketch book containing 50 sketches.

SEMESTER–II
HISTORY OF ART

Time: 3 Hours **Max. Marks: 100**

Note: (a) The question paper should cover entire syllabus. It will contain subjective short questions.

(b) The paper–setter should set 12 questions in all. Students will attempt 10 questions of 10 marks each.

PART – I

History of European Painting & Sculpture from earliest times to C. 1300 A.D. Egypt; Greek; Rome, Art of Early Christian period and Gothic Period.

PART – II

Theory and Principles of Art, appreciation, Explanation through illustrations, the concepts of space, line, colour, form, texture, light and shade design, balance, harmony, composition, perspective; foreshortening, Mural technique: Fresco & Tempera.

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Visual Arts & Performing Arts)

SEMESTER–II
GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)
(THEORY)

Time: 3 Hrs. **Max. Marks: 100**
Theory Marks: 50
Practical: Marks: 50

Instructions for the Paper Setters:

Section–A: Ten questions will be set by the examiners. All questions are compulsory. Each question carries 2 marks. 10x2=20 marks

Section–B: Five Questions will be set by the examiner and the candidate will attempt any three questions of 10 marks each. 3x10=30 marks.

1. Introduction to Metals:– Precious–Gold, Silver, Platinum Semi–Precious–Iron, Copper Their Chemical Detail, Occurrence, Availability
2. Chemical & Physical properties of metals
3. Tendency of (above mentioned) Precious and Semi–precious metals to form Alloys
4. Properties of Metals–Lustre, Ductility, Malleability, Conductors
5. Introductory definitions of Jewellery manufacturing– Mark Making, Piercing, Filling, Soldering, Form–making, Engraving, Acid – Etching
6. Nature of Gemstones (General view)
7. Organic Gemstone (Mineral Gemstone), Inorganic Gemstones, Synthetic gemstones
8. Formation of Gemstones in various rocks–Igneous Rocks, Sedimentary Rocks and Metamorphic Rocks

SEMESTER–II
GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)

INNOVATIVE JEWELLERY 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.

Exercises on:

i) Learning basic techniques of jewellery making like jump–ring, threading of beads, etc.

ii) Different techniques and methods of creating jewellery and accessories like wearable belts, hair accessories using innovative materials like paper, plastic, jute, threads, wires, beads, macramé, etc.

Each student has to submit 20 such pieces of jewellery and accessories at the end of second semester.

SEMESTER–II
STILL PHOTOGRAPHY & AUDIO PRODUCTION (VOCATIONAL)
(THEORY)

Max. Marks: 100
Time: 3 Hours **Theory Marks: 50**
Practical Marks: 50

Instructions for the Paper Setters:
Total No. of questions to be set: 20
Total No. of questions to be attempted: 12
Question paper is divided in two parts.
Section–A: It will consist of 15 questions. Student will attempt 10 questions. Each question will carry three marks. **(Total: 30 Marks)**
Section–B: It will consist of 4 questions. Student will attempt 2 questions. Each question will carry ten marks. **(Total: 20 Marks)**

Course Contents:

a) Traditional forms of Communication.
Converting all the above areas in this paper.
News reporting and editing.
Newspaper Layout, News Analysis.
Desktop publishing techniques and word Processor.
b) Evaluation of Press and its role in different Socio–Economic and Political Systems.
c) Press Laws in India, Press Registration Act, Copyright and Defamation, Contempt of Court.
d) Introduction to Radio as a medium of Mass Communication and its Characteristics, Radio Development in India.
e) Introduction of T.V. as a medium of Mass Communication and its Characteristics, Development of T.V. in India.
f) Lens aberration, lens equation, correction of aberrations, ray diagram.
Comparison of human eye with the camera.
Processing of light sensitive chemical, latent image, development, fixing.

Suggested Readings:

Sr. No.	Book Name	Author
1.	Hand Book of Journalism & Mass Communication	Mr. Vir Bala Aggarwal
2.	Dark Room Basics… And Beyond	Roger Hicks & Frances Schultz
3.	Basic Photography	John Hedgecoe

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Visual Arts & Performing Arts)

SEMESTER–II
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.
4. Extra weightage will be given for creative and professional approach.

Instructions for the 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. Operations.
2. Exposure, tables of lighting, T.C.R.S.C.R. films format: large, medium miniature disc etc.
3. Photograph.
4. Processing B/W film.
5. Contact print.
6. Enlargements B/W.
7. Photo feature.
8. Maintenance of camera.

Suggested Readings:

Sr. No.	Book Name	Author
1.	Hand Book of Journalism & Mass Communication	Mr. Vir Bala Aggarwal
2.	Dark Room Basics… And Beyond	Roger Hicks & Frances Schultz

SEMESTER–II
COMMERCIAL ART

ART APPRECIATION AND ADVERTISING
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 50
Practical Marks: 50

Instructions for the Paper Setters:

1. No. of questions to be set : 15
2. No. of questions to be attempted: 10
3. The questions are to be equitably distributed among all the topics of the Syllabus.
4. Each question will carry 5 marks.

Course Contents:

- Definition of Color. Elements of colors: Primary Colors, Secondary Colors, Tertiary Color. Tones in Colors. Detailed Significance of each Color.
  Importance of Color.
- Logo and Monogram.
- What is Commercial Art and use of Commercial Art.

Suggested Readings:

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

SEMESTER–II
COMMERCIAL ART

ILLUSTRATION (SKETCHING) / FASHION FIGURES (PRACTICAL)

Time: 6 Hours **Marks: 50**
Size: ¼ imperial
Medium: Pencil, Charcoal, Pen & Ink, Water Colors and Poster Colors

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.
3. Extra weightage will be given for creative and professional approach.

Instructions for the Students:

1. Attendance in departmental seminars and extension lectures and college tours shall be obligatory for all students.

Course Contents:
Object drawing, Nature Study, Birds and Animals, Story Based Illustrations, Portraits and Fashion Figures.

Suggested Readings:

Sr. No.	Book Name	Author
1.	Human Figures	Papin Press Publisher
2.	Illustration Now 3	ED Jullis Wiedeall

SEMESTER–II

SCULPTURE
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 50
Practical Marks: 50

Note: Instructions for the Paper Setters:

1. The paper setter should set 12 questions in all and students shall attempt 10 questions.
2. Each question will be of 5 marks

Canons of Indian Art (Shadanga), Bhangas, Appreciation of some selected work of Artist (only with reference to one sculpture), The Triumph of Labour by D.P. Chaudhary, Santal Family by Ramkinker Baij, Skating the stag by Chintamani Kar, Volume in three masses by Prodosh Das Gupta, Standing Figure by Sankho Chaudhary, Flute Player by Dhanraj Bhagat, Sun 85 by Balbir Singh Katt.

SEMESTER–II

SCULPTURE
(PRACTICAL)

Time: 6 Hours **Marks: 50**

1. Relief in Plaster and Terracotta (Total Work: 2)
2. Head Study (Cast in Plaster, Total work 1)
3. Figure Composition in Paper Clay or M–Seal (Total work 2)

SEMESTER–II
MUSIC (VOCAL)
(THEORY)

Max. Marks: 100
Time: 3 Hours **Theory Marks: 50**
Practical Marks: 50

Teaching 3 periods per week

Note: There should not be more than ten students in one group of Practical class.

Instructions for the Paper Setters/Examiners:

1. There should not be more than ten students in a batch for practical examination.
2. Harmonium will be allowed as accompaniment in Vocal Music.
3. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.
4. The paper setter will set **Eight** questions in all. The candidate may be asked to attempt **Five** questions in all.
5. The practical paper will be of 50 Marks for Private and Regular candidates.
6. Candidate can take both subjects i.e. Vocal & Instrumental Music as elective subject.
7. Candidate can take Tabla subject along with Music Vocal or Music Instrumental.

Course Contents:

1. Salient features of Time Theory in Indian Music.
2. Detailed knowledge of following forms of vocal music:

   Nibadh–Anibadh gan, Ragalap, Roopakalap and Alapti Gan.
3. Contribution and Life Sketches of the following musicians: Vishnu Narayan Bhathkhande, V.D. Puluskar, Onkar Nath Thakur
4. Description and notation of the following Ragas: Vrindavani Sarang, Asavari, Kafi.
5. Description and notation of the following Taals: Kehrva, Ektal

6. Elementary knowledge of Wedding Song of Punjabi culture with special reference to Suhag.
7. Elementary Knowledge of the following non–detailed Ragas: Jaunpuri, Bhimplasi, Madhmadh Sarang.
8. Definition and explanation of the following Musical Terms: Shruti, Murchana, Saptak, Raga.
9. Contribution of Bhai Mardana towards Music.
10. Definition and explanation of the following terms in the context of Gurmat Sangeet: Astpadi, Ank, Kirtaniya, Pada.

SEMESTER–II
MUSIC (VOCAL)
(PRACTICAL)

Time: 20 Minutes **Marks: 50**

Teaching 9 periods per week

1. One Drut Khayal in each of the following Ragas with simple Alaps and Tanas: Vrindavani Sarang, Asavari, Kafi.
2. One Vilambit Khayal in any of the Ragas prescribed in the course with simple Alaps and Tanas.
3. Elementary Knowledge of the following non–detailed Ragas: Jaunpuri, Bhimplasi, Tilang.
4. One Shabad from prescribed Ragas.
5. Ability to play five alankars on the Harmonium based on the Thatas of prescribed Ragas in the course.
6. Ability to recite Kehrva and Ektal showing Khali Tali with hand motion in Ekgun, Dhugan Layakaries.
7. Recitation of Suhag.
8. Ability to play Dadra on Tabla.

Books Recommended:

1. Rag Parichya Part – I, II, and III 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–II
MUSIC (INSTRUMENTAL)
(THEORY)

Total Marks: 100
Theory: 3 Hrs. **Theory Marks: 50**
Practical Marks: 50

Theory: 3 periods per week

Instructions given to the examiners are as under:–

1. There should not be more than ten students in a batch for practical examination.
2. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.
3. The paper setter will set eight questions in all. The candidate may be asked to attempt five questions in all.
4. The practical paper will be of 50 marks for private and regular candidates.
5. The External Examiner will set question paper for practical on the spot.
6. Candidate can take both subjects .i.e Instrumental music and Vocal music as elective subjects.
7. Candidate can take Tabla subject along with instrumental music or vocal music.

Course Contents:

1. Classification of Indian Musical Instruments.
2. History of Indian music during Vedic Period.
3. Definition and explaination of the following musical terms:–Bols of mizraab, Maseetkhani Gat, Razakhani Gat, Vadi, Samvadi, Purvang and Uttrang.
4. Life–sketch and contribution of the following musicians:– Annapurna, Ustad Vilayat Khan & Pt. Nikhil Banerjee.
5. Explain Alap, Jod and Jhalla.
6. Description and notation of following ragas:– Bhairav, Kafi and Bhageshwari.
7. Brief knowledge of the following ragas:– Kalingra and Bhimplasi.
8. Brief knowledge of the following Talas:– Kehrva and Rupak.
9. Contribution of Bhai Mardana towards music.
10. Detailed knowledge of the following instruments used in Gurmat Sangeet:– Rabab,Dilruba and Saranda.

Books Recommended:

1. Raag Parichey (Part 1,2) by H.C.Shrivastava.
2. Sangeet Shaster 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.

SEMESTER–II
MUSIC (INSTRUMENTAL)
(PRACTICAL)

Time: 20 minutes **Marks: 50**
Practical: 20 Min. for each student

Practical: 9 periods per week

1. Ability to play Ten Alankars of Bhairav Thaat on your Instrument.
2. One Razakhani Gat in each of the following of the Ragas with Toras and Jhalla:– Bhairav, Kafi & Bageshwari.
3. One Maseetkhani Gat in any of Ragas prescribed in the course.
4. Ability to recite Kehrva and Rupak Taal by hand in Ekgun and Dugun Layakaries.
5. Ability to play Teen Taal on Tabla.
6. One Dhun based on Folk music of Punjab.
7. Brief Knowledge of the following Non–Detailed Ragas: Kalingrha and Bhimplasi.

SEMESTER–II
INDIAN CLASSICAL DANCE
(THEORY)

Max. Marks: 100
Time: 3 Hrs. **Theory Marks: 50**
Practical Marks: 50

Teaching 3 periods per week

Note: There should not be more than ten students in a group of practical class.

Instructions for the Paper Setters/Examiners:

1. There should not be more than ten students in one batch for practical examinations.
2. Harmonium will be allowed as accompaniment to perform Nagma.
3. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.
4. The paper setter will set **Eight** questions in all. The candidate may be asked to attempt **Five** questions in all.
5. The Practical Paper will be of the 50 marks for the private & regular candidates.

Course Contents:

1. Definition of the following:– Kavit, Chakardar Paran, Bhaav, Kasak, Masak, Vandana, Gat, Laya.
2. Knowledge of:
   i) Four neck movements
   ii) Eight eye glances.
   iii) Seven eye–brow movements.
   iv) Nine head movements.
3. Study of Asmyukta Mudras based on Abhinaya Darpan.
4. Essential characteristics of Manipuri Dance.
5. Origin & Development of Bharat–Natyam
6. Historical background of the Folk Dances of Rajasthan.

7. Importance of Vocal & Instrumental Music with Dance

8. Essay on :
   i) Importance of Tal and Lehra in Kathak Dance.
   ii) Advantages of Dance.

9. Writing notation of Jhaptal with its:
   (a) Tatkar with its Thaah, Dugan, Tigun and Chaugun Layakaries
   (b) Thaat – 1
   (c) Tehai – 1
   (d) Amad – 1
   (e) Tora – 1
   (f) Paran – 1
   (g) Chakardar Paran – 1

10. Description of following talas with their Thaah, Dugun, Tigunand Chaugun Layakaries of Thekas.
   i) Jhaptal
   ii) Ektal
   (iii) Dadra

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 – 2
(c) Tehai – 1
(d) Amad – 1
(e) Salami – 1
(f) Tora – 2
(g) Paran – 1
(h) Chakardar Paran – 1
(i) Kavit – 1

2. Jhaptal:
(a) Tathar with its Thaah, Dugun, Tigun and Chaugun Layakaries.
(b) Thaat – 1
(c) Tehai – 1
(d) Amad – 1
(e) Tora – 1
(f) Paran – 1
(g) Chakardar Paran – 1

3. Padhant of whole material by hand in all taals mentioned above.
4. Recognition of the compositions such as Tehai, Layakaries etc. composed by the Examiner.
5. Practice of (Hand movements with Tal).
6. (i) Two Gat Nikas in Taal.
   (ii) One Bhajan
7. Ability to demonstrate Panjabi or Rajasthani Folk Dance
8. Ability to play Nagma on Harmonium in Teentaal &Jhaptaal.

Books Recommended:

1. Kathak Nritya Ka Prichey Subhashni Kapoor Radha Publications, New Delhi, 1997.
2. Kathak Sundaryatmak Shikhakharey Shashtriya Nritya Krishka Publishers, New Delhi, 2005.
3. Atihasik Pripeksh Mein Maya Tak Kathak Naritya Knishka Publishers, New Delhi, 2006.
4. Nibandh Sangeeet Laxmi Naryan Garg Sangeet Karyalya, Hathras, 2004.

SEMESTER–II
TABLA
(THEORY)

Total Marks: 100
Theory: 3 Hours **Theory Marks: 50**
Practical Marks: 50

Theory 3 periods per week.

Instructions given to the examiners are as under:

1. There should not be more than ten students in a batch for practical examinations.
2. Harmonium will be allowed as accompaniment to perform the Nagma.
3. While sending the syllabus to paper setter in theory the syllabus prescribed for practical paper should also be sent.
4. The paper–setter will set eight questions. The candidate will be asked to attempt five questions.
5. The practical paper will be of the 50 marks for the private & regular candidates
6. Candidate can take Tabla subject with Vocal or Instrumental Music (Sitar, Sarangi, Veena, Sarod, Dilruba, Violin, Guitar, Bansuri, Shehnai, Rabab, Saranda, Taus, Santoor and any other Swar Vadhya to the played on the basis of Indian Classical Music).

Course Contents:

1. Definitions with full explanations of the following:
   Tukda, Vibhag, Mukhra, Mohra, Tipalli, Gat, Paran, Rela.
2. Role of Young Artists in Promoting & popularizing Tabla.
3. The Place of Tabla in Light Music.
4. Comparative study of the following Taals :–
   Ektal-Chartal
5. Life & Contribution of the following Musicians in the field of Tabla vadan:–
   Pt. Samta Prasad, Ustad Alla Rakha Khan, Pt. Lakshman Singh Seen.
6. Notation and description of the following :–
   a. Teental – Peshkar, Two Qaidas with Four Paltas each, One Paran, One Gat, One Chakardar Tihaai.
   b. Ektal – Two Qaidas with Four Paltas each, Two Tukra, Two Tihais.
7. Notations of the following talas in Dugun, Tigun & Chaugun laykaries:–
   Teentaal, Ektaal, Chartal.
8. Comparative Study of Delhi & Ajrada Gharanas of Tabla.
9. Role of following Instruments in Rhythm:–
   Dholak, Mridang, Khol.
   Detailed Knowledge of Folk Instruments (Percussion) of Punjab.

SEMESTER–II
TABLA
(PRACTICAL)

Time: 20 Minutes **Marks: 50**
Practical: 20 Minutes for each student

Practical: 9 periods per week.

1. Tals Prescribed: Teental, Ektal, Keharwa.
2. Teental – Peshkar, Two Qaidas with Four Paltas each, One Paran, One Gat, One Chakardar Tihaai.
3. Ektal – Two Qaidas with Four Paltas each, Two Tukra, Two Tihais.
4. Kehrwa : Laggis (three), Two Tiharris, Two Mukhra
5. Practice of playing the above Taals with Vocal and Instrumental performance.
6. Ability to play Nagma on Harmonium in Ektal.
7. Tuning of Tabla.

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–II

COMPUTER SCIENCE

PROGRAMMING USING C
(THEORY)

Time: 3 Hours **Max. Marks: 100**
4 Hours/week **Theory Marks: 75**
Practical Marks: 25

Instructions for the Paper Setters:

(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.

(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.

(iii) The students can use only Non Programmable & Non Storage Type Calculator.

UNIT–I

Data Representation, Introduction to Number Systems and Character Codes, Flow Charts, Problem Analysis, decision tables, pseudo codes and, algorithms.

UNIT–II

Programming Languages C:

Basics of C: Introduction to C, Applications and Advantages of C, Tokens, Types of Errors

Data Types: Basic & Derived Data Types, User Defined Data Types, Declaring and initializing variables.

Operators and Expressions: Types of operators (Unary, Binary, Ternary), Precedence and Associativity

Data I/O Functions: Types of I/O function, Formatted & Unformatted console I/O Functions

Control Statements: Jumping, Branching and Looping–Entry controlled and exit controlled, Advantages/Disadvantages of loops, difference between for, while and do–while.

UNIT–III

Arrays: Types of Arrays, One Dimensional and Two Dimensional Arrays.

Strings: Introduction to Strings and String functions, array of strings.

Functions: User Defined & Library Function, Function (Prototype, Declaration, Definition), Methods of passing arguments, local and global functions, Recursion.

Storage Classes: Introduction to various storage classes, scope and lifetime of a variable, Storage class specifiers (auto, register, static, extern), advantages and disadvantages.

Structure and Union: Introduction to structure and union, pointers with structure.

(PRACTICAL)

Marks: 25

Practical based on Programming in C
2 Hours/week

Books Suggested:

(i) Programming with C Languages C. Schaum Series.
(ii) Yashwant Kanitkar – Let Us C
(iii) C Programming by Stephen G Kochan

SEMESTER–II
INFORMATION TECHNOLOGY (VOCATIONAL)
INTERNET & DATA COMMUNICATION
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:

(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.
(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.
(iii) The students can use only Non Programmable & Non Storage Type Calculator.

UNIT–I

Internet:

Internet Applications, Domain Name System, Electronic Mail the World Wide Web, Multimedia Audio, Video, Data corporate File transfer Protocol, Mail transfer Protocol, Telnet, HTTP.

UNIT–II

Introduction to HTML, HTML and the World Wide Web, HTML elements, basic structure of elements, creating HTML pages, viewing pages in different browsers, rules for nesting the HTML tags, color and fonts, formatting the body section, creating links, creating external links, creating internal links, adding graphics with image elements, image element attributes, using image as links.

UNIT–III

Computer Networks, Network Hardware, Network Categorization–LAN, MAN, WAN, OSI & TCP/IP Reference Models, Transmission Media, Wireless Transmission, Communication satellites.

(PRACTICAL)

On the basis of Internet & Data Communication **Marks: 25**

Books Recommended:

1. D.H. Sanders, "Computers Today", McGraw Hill, 1998.
2. Complete Network by Andrew Tanenbaum, 4th Edition, Prentice Hall India.

SEMESTER–II
COMPUTER MAINTENANCE (VOCATIONAL)

COMPUTER ORGANIZATION AND ASSEMBLING
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:
(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.
(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.
(iii) The students can use only Non Programmable & Non Storage Type Calculator.

UNIT–I
Top Level View of Computer Function & Interconnection: Computer Component, Functions Interconnection Structure, Bus Interconnection.
Computer Arithmetic: ALU, Integer Representation, Integer Arithmetic, Floating Point Representation, Floating Point Arithmetic.

UNIT–II
Basics Computer Organization & Design: Instruction Codes, Computer Registers. Computer Instructions, Timing and Control, Instruction Cycle, Memory Reference Instruction.
Micro Programmed Control: Control Memory, Addressing Sequence, Micro Program Example, Design of Control UNIT.

UNIT–III
CPU: Stack Organization, Instruction Format, Addressing Modes, Data Transfer and Manipulation, RISC.
I/O Organization: Asynchronous Data Transfer, Modes of Transfer, Priority Interrupt DMA, IOP.
PC Assembling : Introduction of Motherboards, Power Supply, RAM, Drivers, Keyboard Monitor, Processors and assembling the Computer System.

References:
1. Computer Architecture: Morris Mano–Pearson Education, 3rd Edition, 1993
2. PC Upgrade & Maintenance Guide: Mark Minasi–BPB Publishers, 15th Edition 2004.

(PRACTICAL)

List of Practicals Based on Computer Organization and Assembling **Marks: 25**
1. To study the various I/O devices.
2. To study the power supply system.
3. To study the usage of various tools.
4. To study the techniques of soldering and desoldering.
5. Installation of operating systems and software.
6. PC Assembling & Disassembling.

SEMESTER–II
COMPUTER APPLICATIONS (VOCATIONAL)

PROGRAMMING USING C
(THEORY)

Time: 3 Hrs. **Max. Marks: 100**
4 Hours/week **Theory Marks: 75**
Practical Marks: 25

Instructions for the Paper Setters:

(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.

(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.

(iii) The students can use only Non Programmable & Non Storage Type Calculator.

UNIT–I

Data Representation, Flow Charts, Problem Analysis, Decision tables, Pseudo codes and Algorithms.

Programming Using C:

Basics of C: Introduction to C, Applications and Advantages of C, Tokens, Types of Errors

Data Types: Basic & Derived Data Types, User Defined Data Types, Declaring and initializing variables.

Operators and expressions: Types of operators **(**Unary, Binary, Ternary), Precedence and Associativity

UNIT–II

Data I/O Functions: Types of I/O function, Formatted & Unformatted console I/O Functions

Control Statements: Jumping, Branching and Looping–Entry controlled and exit controlled, Advantages/Disadvantages of loops, difference between for, while and do–while.

Arrays: Types of Arrays, Advantages/Disadvantages of arrays. Insertion, Deletion, Searching and sorting operations on array

Strings: Introduction to Strings and String functions, array of strings.

UNIT–III

Functions: User Defined & Library Function, Function (Prototype, Declaration, Definition), Methods of passing arguments, local and global functions, Recursion.

Storage classes: Introduction to various storage classes, scope and lifetime of a variable, Storage class specifiers (auto, register, static, extern), advantages and disadvantages.

Pointers: Introduction, Advantages/Uses of pointers, Limitations of pointers, Difference between void pointer and Null pointer, Pointer arithmetic, operators not allowed on pointers, Types of Pointer**,** Passing Pointers to function, concept of pointer to pointer.

Structure and Union: Introduction to structure and union, pointers with structure.

References:

1. Programming in C : Schaum Outlines series.
2. C Programming : Stephen G. Kochan.
3. Let Us C : Yashwant Kanitkar

(PRACTICAL)

Marks: 25

2 Hours/week

SEMESTER–II
ELECTRONICS

PRINCIPLE OF ELECTRONICS–II (201)
(THEORY)

Time: 3 Hours **Marks: 40**

Instructions for the Paper Setters/Examiner:

1. Equal weightage should be given to each unit of the syllabus.

2. Question Paper should be set strictly according to the syllabus.

3. The distribution of marks is as given below:

Section A: It will consist of 10 (ten) very short answer type questions. All questions will be compulsory. Each question will carry 1 mark; total weightage of the section being 10 marks.

Section B: It will consist of short–answer questions. The examiner will set Fifteen (15) questions and the candidates will attempt ten (10) questions. Each question will carry 2 marks each, total weightage of the section shall being 20 marks.

Section C: It will consist of essay type questions. The examiner will set three (3) questions and the candidates will be required to attempt two (2). Each question will carry 5 marks each; total weightage of the section being 10 marks.

Note for Teacher / Student: Minimum number of hours for theory are three (3) = 4x45 minutes per week.

UNIT–I

Laplace Transforms: Transforms of elementary functions like exponential, step, ramp, impulse, sinusoidal etc; partial fraction expansion, evaluation of residues, Initial value theorem and final value theorem, application of Laplace transforms to network analysis, Relation between step response, impulse response and frequency.

Network Functions: Z, Y, H and ABCD parameters, equivalent circuit in terms of parameters, relationship between parameter sets, parallel and cascade interconnection of two port network function of terminated two port, application of two port parameters to analysis of T, ladder bridged–T and lattice networks.

UNIT–II

Single stage transistor amplifier, graphical analysis, DC and AC equivalent of amplifier, load line analysis, current and voltage gain of amplifier, small signal transistor model (H parameter, resistance models) Multistage amplifiers, RC coupled amplifiers, transformer coupled amplifier, direct coupled amplifier, Amplifier classification, Distortion in amplifiers.

UNIT–III

Feedback and Oscillator: Feedback in amplifiers, positive feedback, negtive feedback, Principles of oscillators, types of oscillators, Hartley, Collpit, Crystal Oscillators, RC Phase Shift, Wein Bridge Oscillator.

Recommended Books:

1. Basic Electronics & Linear Circuits by N.N. Bhargava (TMH) Reprint 2002.
2. Basic Electronics by B.L. Theraja (S. Chand & Co.), 1998.
3. Electronic Design from concept to Reality by M.S. Roders, G.L. Carpenter, Shroff Publishers, Kolkata.
4. Network Analysis & Synthesis by Soni Gupta.
5. Network Analysis & Synthesis by R. Sudhakar.
6. Network Analysis & Synthesis by Van Valkenburg.

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Engineering & Technology)

SEMESTER–II
ELECTRONICS

DIGITAL ELECTRONICS–II (202)
(THEORY)

Time:3 Hours **Marks: 40**

Instructions for the Examiners / Paper Setters:

1. Equal weightage should be given to each UNIT–of the syllabus.
2. Question paper should be set strictly according to the syllabus.
3. The distribution of marks is as given below:

Section A: This will consist of 10 (ten) very short answer type questions. All questions will be compulsory. Each question will carry 1 mark; total weightage of the section being 10 marks.

Section B: This will consist of short–answer questions. The examiner will set Fifteen (15) questions and the candidates will attempt ten (10) questions. Each question will carry 2 marks each, total weightage of the section shall being 20 marks.

Section C: This will consist of essay type questions. The examiner will set three (3) questions and the candidates will be required to attempt two (2). Each question will carry 5 marks each; total weightage of the section being 10 marks.

Note for Teacher / Student: Minimum number of hours for theory are three (3) = 4x45 minutes per week.

UNIT–I

Combinational logic circuits

Arithmetic and Logic circuits, half adder, full adder, half subtractor, full subtractor, comparator, multiplexer, demultiplexer, encoder, decoder, parity generator and checker.

UNIT–II

Sequential Circuits: Shift registers, serial in serial–out, serial in parallel–out, parallel in serial–out, parallel in parallel–out, application registers.

UNIT–III

Converters: Digital to analog converters: variable resister network, binary ladder. Analog–to–digital converters: simultaneous conversion, counter method, continuous conversion, dual–slope conversion.

Books Recommended:

1. Digital Design by Mano M. Morris (PHI), 3rd Edition, 2006.
2. Fundamentals of Digital Circuits by A. Anand Kumar, 2004 (PHI).
3. Digital Principles & Applications by Leach & Donald (TMH), 6th Edition, 2006.
4. Digital Logic Design by Leach/Mal. (McGraw Hill), 2006.

SEMESTER–II
ELECTRONICS

BASIC ELECTRONICS LAB-II (203)
(PRACTICAL)

Time: 3½ Hours **Marks: 20**

Note:

1. *Perform two experiments at least one from each section.*
2. *Minimum hours per week for practical 6.*

Section–A

1. To determine (1) z–parameters; (2) y–parameters; (3) h–parameters and (4) ABCD–parameters, of a two port resistive network.
2. To Study half–wave and full–wave rectifiers with and without filters.
3. To study transistors characteristics in common base and common emitter configuration.
4. To study the FET characteristics.
5. Transistors bias stabilization:– To familiarize with the method of stabilization of operating point of a transistor.

Section–B

1. To study the universality of Nand and Nor gates.
2. To form a half adder and a full adder using NAND gates and verify their truth tables.
3. To form a 2 bit comparator using NAND gates.
4. To demonstrate the operation Pb display BCD to seven segment display.

Books Recommended:–

1. Basic Electronics and Linear Circuits by N.N. Bhargava et. al (TMH, New Delhi).
2. Circuits and Systems by K.M. Soni (S.K. Kataria & Sons, New Delhi).
3. Digital Electronics Circuit and System by V.K. Puri (TMH, New Delhi).
4. Digital Design by M. Morris Mano (PHI, New Delhi).

SEMESTER–II
AUTOMOBILE MAINTENANCE (VOCATIONAL)
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Periods/week: 6 **Theory Marks: 60**
Practical Marks: 40

Instructions for the Paper Setters:

a. Ten compulsory short answer questions of one mark each. **1x10=10**
b. Eight short answer questions of four marks each, student is required to attempt any five questions. **5x04=20**
c. Five long answer questions of ten marks each, student is required to attempt any three. **3x10=30**

Orientation of the Course:

UNIT–I

Automotive Engines, Engine fundamentals; Piston–Engine Operation, Engine Types Engine Constructions, Values and Values Trains Engine Measurements and performance.

UNIT–II

Automotive Engine Systems; Automotive Engine fuels; Automotive fuel exhaust system; Automotive carburetors; Carbureted–Fuel–System service; Diesel Fuel–Injection Systems.

UNIT–III

Operation and service; Engine lubrication System: Operation and service; Engine Cooling system; Cooling System Service.

SEMESTER–II
AUTOMOBILE MAINTENANCE (VOCATIONAL)
(PRACTICAL)

LAB–II

Time: 3 Hours
Period/week: 6 **Marks: 40**

Practical:

1. Carburetor dismentling, cleaning and fault diagnosing.
2. Fuel Injection Pump timing with engine.
3. Injector O/H and Testing.
4. Water Pump cooling system and fault diagnosing.

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.

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Engineering & Technology)

SEMESTER–II
REFRIGERATION & AIR CONDITIONING (VOCATIONAL)
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Periods/week: 6 **Theory Marks: 60**
Practical Marks: 40

Instructions for the Paper Setters:

Section–A: It will consist of 10 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry one & half marks i.e. (1½ marks); total weightage of the section being 15 Marks.

Section–B: It will consist of short answer questions with answer to each question upto 2 pages in length. Eight questions will be set by the examiner and 5 will be attempted by the candidates. Each question will carry 4 marks; total weightage of the section being 20 marks.

Section–C: It will consist of essay type question with answer to each question upto 5 pages in length. Four questions will be set by the examiner & candidates will be required to attempt two. Each question will carry 12½ marks; total weightage of the section being 25 marks.

UNIT–I

Air Refrigeration System: Introduction, Reuersed carnot cycle. Reuersed Brayton or Belt Coleman cycle & their C.O.P. Advantages & disadvantages of air.
Measuring Instruments: Fundamental & Concepts & Principles Ohm's Law measuring instruments as multimeter, Megger.

UNIT–II

Electrical Aspects of Refrigeration and Air Conditioning: Concepts of volt, current, power A.C. & D.C. Operations, code & electrical wiring for practice, Instruments for voltage, current & resistance measurements. Single phase motors: Starting, running & Winding current & voltage thermal relays, solenoid values.
Electrical Wiring & Electrical Circuit of Following: Refrigeration, Air Conditioner & Water Cooler.

UNIT–III

Air Conditioning Cycle: Psychrometric Processes: Sensible cooling, heatix, dehumidification / humidification etc.Thermal comfort, standard conditions & ventilation Requirements. Types of air conditioning system Direct Expansion, chilled Water Window cycle, package air conditioning split units & conts of plants.
Components of Air Conditioning: Chillers, coils, blowers, ducts distributor & pumps.

SEMESTER–II
REFRIGERATION & AIR CONDITIONING (VOCATIONAL)

(PRACTICAL: LAB–II)

Time: 3 Hours
Period/week: 6 **Marks: 40**

List of Experiments:

1. To make different types of joints with help of elbows. T's socket etc.
2. To study different types of comp. eg open & sealed type.
3. To study different types of condensers eg. Air cooled & Water cooled.
4. To study the various types of expansion devices. Capillary tube Exp. Values. Thermostatic Exp. value.
5. To study pressure & Temperature measuring instruments.

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.

SEMESTER–II

RELIGIOUS STUDIES
(ਧਰਮ ਅਧਿਐਨ)

ਪ੍ਰਮੁੱਖ ਭਾਰਤੀ ਧਰਮ

ਸਮਾਂ 3 ਘੰਟੇ ਕੁਲ ਅੰਕ:100
ਲੈਕਚਰਾਂ ਦੀ ਗਿਣਤੀ:75% ਪਾਸ ਹੋਣ ਲਈ ਅੰਕ:35

ਪੇਪਰ ਸੈਟਰ ਲਈ ਹਦਾਇਤਾਂ:
ਪੇਪਰ ਦੇ ਪੰਜ ਭਾਗ ਹੋਣਗੇ: ਓ, ਅ, ਏ, ਸ, ਅਤੇ ਹ। ਭਾਗ ਓ, ਅ, ਏ, ਸ ਵਿਚੋਂ 2–2 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਇਕ–ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਹੋਵੇਗਾ ਅਤੇ ਹਰ ਇਕ ਪ੍ਰਸ਼ਨ ਦੇ 15 ਅੰਕ ਹੋਣਗੇ। ਭਾਗ ਹ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ 10 ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹੋਣਗੇ, ਜਿਹੜੇ ਸਾਰੇ ਸਿਲੇਬਸ ਵਿਚੋ ਹੋਣਗੇ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 4–4 ਅੰਕ ਹੋਣਗੇ।

ਪ੍ਰੀਖਿਆਰਥੀ ਲਈ ਹਦਾਇਤਾਂ:
ਭਾਗ ਓ, ਅ, ਏ, ਸ ਵਿਚੋਂ ਕੇਵਲ ਇਕ–ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਹੈ ਅਤੇ ਭਾਗ ਹ ਦੇ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਜ਼ਰੂਰੀ ਹਨ।

ਭਾਗ (ਓ): ਵੈਦਿਕ ਧਰਮ

1. ਆਰੀਅਨ ਦੀ ਜਾਣਕਾਰੀ
2. ਆਰੀਆ ਧਰਮ: ਸੰਖੇਪ ਜਾਣਕਾਰੀ (ਵੇਦ, ਬਲੀ ਤੇ ਯੱਗ)
3. ਵੈਦਿਕ ਦੇਵਤੇ: ਬਹੁ–ਦੇਵਵਾਦ

ਭਾਗ (ਅ): ਹਿੰਦੂ ਧਰਮ

1. ਪ੍ਰਮੁੱਖ ਫ਼ਿਰਕੇ: ਵੈਸ਼ਨਵ, ਸ਼ੈਵ ਅਤੇ ਸ਼ਾਕਤ (ਜਾਣ–ਪਹਿਚਾਣ ਅਤੇ ਮੁੱਖ ਸਿੱਧਾਂਤ)
2. ਭਗਵਤ ਗੀਤਾ: ਜਾਣ–ਪਹਿਚਾਣ ਅਤੇ ਮੁੱਖ ਸਿੱਧਾਂਤ
3. ਮਹਾਂਭਾਰਤ ਤੇ ਰਾਮਾਇਣ: ਜਾਣ ਪਹਿਚਾਣ ਅਤੇ ਮੁੱਖ ਸਿੱਧਾਂਤ

ਭਾਗ (ਏ): ਜੈਨ ਧਰਮ

1. ਤੀਰਥੰਕਰ ਅਤੇ ਭਗਵਾਨ ਮਹਾਂਵੀਰ ਦਾ ਜੀਵਨ
2. ਮੁੱਖ ਸਿਧਾਂਤ: ਪੰਜ ਮਹਾਵਰਤ, ਕਰਮ ਅਤੇ ਮੁਕਤੀ
3. ਧਰਮ ਗ੍ਰੰਥ ਅਤੇ ਫ਼ਿਰਕੇ

ਭਾਗ (ਸ): ਬੁੱਧ ਧਰਮ

1. ਮਹਾਤਮਾ ਬੁੱਧ ਦਾ ਜੀਵਨ
2. ਮੁੱਖ ਸਿੱਧਾਂਤ: ਚਾਰ ਆਰੀਆ ਸੱਚ ਅਤੇ ਪ੍ਰਤੀਤੱਯਸਮੁਤਪਾਦ
3. ਧਰਮ ਗ੍ਰੰਥ ਅਤੇ ਫਿਰਕੇ

ਭਾਗ (ਹ): ਸੰਖੇਪ ਉੱਤਰ ਵਾਲੇ 10 ਪ੍ਰਸ਼ਨ

ਸੁਝਾਈਆਂ ਪੁਸਤਕਾਂ ਦੀ ਸੂਚੀ:

English:

1. Bhalla, K.S., *Major Religions in India*, Star Publications, 2005.
2. Bhaskar, V.S., *Faith and Philosophy of Buddhism*, Kalpaz Publications, 2009.
3. *Buddhism*, Punjabi University, Patiala, 1969.
4. David, Neel, Alexander, *Buddhism–Its Doctrines and Its Methods*, B.I. Publications, Grate Britain, 1977.
5. Gopalan, S., *Outlines of Jainism*, Wiley Western Ltd., New Delhi, 1975.
6. Gupta, Das, S., *A History of Indian Philosophy*, Vol. I, Cambridge University, Press, New York, 1969.
7. Hiriyanna, H., *Outlines of Indian Philosophy*, George Allen & Cnwin Ltd., London, 1931.
8. Hume, R.E., *The Thirteen Principal Upanishads*, Oxford University Press, New York, 1975.
9. Nathmal, Tatia Muni & Mahandra Kumar, *Aspects of Jain Monasticism*: *Today and Tomorrow*, Jain Vishva Bharti, Printers and Publishers, New Delhi, 1981.
10. Richard, A.Gard (Ed.), *Buddhism*, Prentice Hall, International, London, 1961,
11. Slevenson, S., *The Heart of Jainism*, Munshi Ram Manohar Lal, New Delhi, 1979.

Punjabi :

1. ਅਮੋਲ, ਸ.ਸ, *ਧਰਮਾਂ ਦੀ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ*, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 1999.
2. ਗੁਪਤਾ, ਸ਼ਾਂਤੀ ਨਾਥ, *ਭਾਰਤੀ ਦਰਸ਼ਨ*, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ, 1974.
3. ਵਜ਼ੀਰ ਸਿੰਘ, *ਧਰਮ ਦਾ ਦਾਰਸ਼ਨਿਕ ਪੱਖ*, ਪਬਲੀਕੇਸ਼ਨ਼ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 1986.

Hindi:

1. राधा क्रिशनन, *भारतीय दरशन*, भाग पहिला, राजपाल ऐंड संनज़, दिॅली, 1973.

SEMESTER–II
PHILOSOPHY
ETHICS: WESTERN AND INDIAN

Time: 3 Hours **Max. Marks: 100**
Lectures to be delivered: 6 per week
Pass Marks 35 %

Note: Instructions for the paper-setter
The question paper will consist of five sections A, B, C, D and E. Sections A, B, C and will have two questions from the respective sections of the syllabus and will carry 15 marks each. Section E will consist of 10 short answer type questions and will cover the entire syllabus uniformly and will carry 40 marks in all, each short answer type question carrying 4 marks.

Instructions for the candidate
Candidates are required to attempt one question each from the sections A, B, C and D of the question paper and the entire Section E.

Section–A

1. Definition,Nature, Scope and Utility of Ethics.
2. Relation of Ethics with Religion

Section–B

1. Plato: Virtues.
2. Kant: Categorical Imperative, Good Will.
3. Utilitarianism: Bentham, Mill.

Section–C

1. Bhagavad Gita: Nishkama Karma.
2. Guru Granth Sahib: Truth, Contentment and Hukam.

Section–D

1. Buddhism: Four Noble Truths and Eight-Fold Path
2. Yoga Philosophy: Ashtangyoga
3. Jainism: Tri Ratna and Kaivalya.

Section–E

Ten short answer type questions.

Recommended Readings:

1. Avtar Singh, *Ethics of the Sikhs*, Punjabi University, Patiala, 1970.
2. Balbir Singh, *Principles of Ethics*, S. Nagin, Jalandar, 1978.
3. Gupta, S.N., *Niti Shastra* (Punjabi),
4. Mackenzie, J.S., *Mannual of Ethics*.
5. Verma, Ved Parkash, *Niti Shastra* (Hindi), Allied Publishers, New Delhi, 1987.
6. William Lillies, *Introduction to Ethics*.
7. ਗੁਪਤਾ, ਸ਼ਾਂਤੀ ਨਾਥ ਭਾਰਤੀ ਦਰਸ਼ਨ, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ, 1994.
8. ਨਿਰਾਕਾਰੀ, ਆਰ.ਡੀ., ਭਾਰਤੀ ਦਰਸ਼ਨ, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ, 1994.

SEMESTER–II
ZOOLOGY

Paper	**Maximum Marks**		**Hours of Teaching**	
	Theory Marks	**Practical Marks**	**Theory**	**Practical**
			Credit Hrs. per Week (60 min. each)	
ZOO-IIA (Ecology)	35	__	3 Hrs	__
ZOO-IIB **(**Biodiversity-II)	35	__	3 Hrs	__
PRACTICAL–II (RELATED TO ZOO-IIA and ZOO-IIB)	__	30	__	4½ Hrs

SEMESTER–II
ZOOLOGY
ZOO–II A: ECOLOGY
(THEORY)

Time: 3 Hrs. **Marks: 35**
Credits Hours/week = 3

Instructions for the Paper Setters:

1. There will be a total of 9 questions of which five are to be attempted.
2. Question 1 will be compulsory and will be of 7 short answer type. (one mark each)
3. The remaining 8 questions shall include two questions from each unit. Candidates shall be required to attempt 4 questions, one from each unit. All questions shall have equal marks. (7 marks each)

UNIT–I

Ecology: Definition, Subdivisions and scope of ecology.

Ecosystem: Components, ecological energetics, food web, major ecosystems of the world.

Ecological factors: Temperature, light and soil as ecological factors.

UNIT–II

Nutrients: Biogeochemical cycles and concept of limiting factors.

Ecological Adaptations: Morphological, physiological and behavioural adaptations in animals in different habitats.

UNIT–III

Population: Characteristics and regulations of population. Inter and Intra Specific relationship: Competition, Predation, Parasitism, Commensalism and Mutualism.

Biotic commUNITy: Characteristics, ecological succession, ecological niche.

UNIT–IV

Natural resources: Renewable and nonrenewable natural resources and their conservations.

Environmental Issues: Causes, impact and control of environmental pollution.

SEMESTER–II
ZOOLOGY

ZOO–II B: BIODIVERSITY-II
(ARTHROPODA TO HEMICHORDATA)
(THEORY)

Time: 3 Hrs. **Marks: 35**
Credits Hours/week = 3

Instructions for the Paper Setters:
1. There will be a total of 9 questions of which five are to be attempted.
2. Question 1 will be compulsory and will be of 7 short answer type. (one mark each)
3. The remaining 8 questions shall include two questions from each unit. Candidates shall be required to attempt 4 questions, one from each unit. All questions shall have equal marks. (7 marks each)

UNIT–I

Detailed type study of the following animals:

Arthropoda: *Periplaneta americana* (Cockroach),

Paleomon malcolmsonii (Fresh-water Prawn)

UNIT–II

Social organizations in insects (Honey bee and Termite)

Detailed type study of the following animal:

Mollusca: *Pila globosa*

UNIT–III

Detailed type study of the following animals:

Echinodermata: *Asterias* (Star fish)

Study of Echinoderm larvae

UNIT–IV

Detailed type study of the following animals:

Hemichordata: *Balanoglossus* (External characters only).

Affinities of Hemichordates with Non-Chordates and Chordates

SEMESTER – II
ZOOLOGY

PRACTICAL–II (RELATED TO ZOO-II A and ZOO-II B)

Time: 3hrs. **Marks: 30**
Credits Hours/Week = 4½

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

1. **Classification up to orders with ecological notes and economic importance (if any) of the following animals:**

A. Arthropoda : *Peripatus, Palaemon* (prawn), *Lobster, Cancer* (crab), *Sacculina, Eupagurus* (hermit Crab), *Lepas, Balanus,* Cyclops, *Daphnia, Lepisma, Periplaneta* (cockroach), *Schistocerca* (locust), *Poecilocerus* (ak grasshopper), *Gryllus* (cricket), *Mantis* (praying mantis), *Cicada, Forficula* (earwig), Dragonfly, Termite queen, Bug, Moth, Beetles, Polistes, (wasp), *Apis* (honey bee), *Bombyx, Pediculus* (body louse) Millipede and Centipede, *Palamnaeus* (scorpion), *Aranea* (spider) and *Limulus* (king Crab).

B. Mollusca: *Anodonta, Mytilus, Ostrea, Cardium, Pholas, Solen* (razor fish), Pecten, *Haliotis, Patella, Aplysia, Doris, Limax, Loligo, Sepia, Octopus, Nautilus* shell (Complete and T.S.), *Chiton, Dentalium.*

C. Echinodermata: *Asterias, Echinus Ophiothrix, Antedon.*

D. Hemichordata: *Balanoglossus.*

2. **Study of the following permanent stained preparations**:
   A. Insect trachea, mouth parts of *Periplaneta* (cockroach)
   B. Radula and osphradium of *Pila*
   C. T.S. Star fish (Arm).

3. **Demonstration of** digestive and nervous systems of Periplaneta (cockroach) with the help of charts/models/videos.

4. **Ecology:**
   A. Study of animal adaptations with the help of specimens, charts and models.
   B. Study of biotic components of an ecosystem.
   C. Study of different types of nests in birds.
   D. Study and preparation of Zoogeographical charts.

5. **Assignment:**

SEMESTER–II
MICROBIOLOGY

BASIC FOOD MICROBIOLOGY
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:
There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3–4 lines). However no multiple choice one–word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

UNIT–I

1. Food as a substrate for microorganisms, intrinsic and extrinsic factors affecting the growth of various microorganisms in foods. Microorganisms important in food microbiology–bacteria, yeasts and molds, sources of contamination in foods.

UNIT–II

2. Fermented foods, origin of fermentation as a method of preparing indigenous foods, bread, dosa idli, warri, temper miso.

UNIT–III

3. Principles of food preservation and spoilage, asepsis, anaerobic conditions, aseptic packaging, preservation methods, high temperature, low temperature, drying, chemical preservatives.

UNIT–IV

4. Spoilage of various milk and milk products, cereal and cereal products, vegetable and fruits, meat and meat products, canned foods. Food poisoning and food infection. *Staphylococcal, Clostridium* and *Salmonella* intoxications.

Books Recommended:

1. Frazier. W.C. and Westhoff, D.C. 1978, Food Microbiology, Tata McGraw Hill Publishing Co., Ltd., New Delhi.
2. Banwart, G.J., 1987, Basic Food Microbiology, CBS Publishers and Distributions, New Delhi.
3. Powar, C.B. and Dagniwala, H.F. 1992. General Microbiology Volume II. Himalaya Publishing House, New Delhi.

SEMESTER–II
MICROBIOLOGY

(PRACTICAL)

Time: 4 Hours **Marks: 25**

1. To enumerate the total microbial cells in a suspension by serial dilution and pour plating.
2. To enumerate the total bacteria in milk by direct microscopic count.
3. To measure the size of microbial cells by ocular micrometer.
4. To study the morphology of bacteria, yeasts and molds.
5. To check the bacteriological quality of raw milk by methylene blue reduction test.

SEMESTER–II
INDUSTRIAL MICROBIOLOGY (VOCATIONAL)

INTRODUCTION TO FOOD MICROBIOLOGY
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:
There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3–4 lines). However no multiple choice one–word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

UNIT–I

1. Food as a substrate for microorganisms, intrinsic and extrinsic factors affecting the growth of various microorganisms in foods.

UNIT–II

2. Microorganisms important in food microbiology: bacteria, yeast and molds, sources of contamination in foods.
3. Fermented foods, fermentation as a method of preparing indigenous foods, bread, dosa idli, warri, soy sauce, miso.

UNIT–III

4. Principles of food preservation and spoilage, asepsis, anaerobic conditions, aseptic packaging, preservation methods, high temperature, low temperature, drying, irradiation and chemical preservatives.

UNIT–IV

5. Spoilage of various milk and milk products, cereal and cereal products, vegetable and fruits, eggs, canned foods and meat and meat products.
6. Food polsoning and food infection. Staphylococal Chlostridrium and Salmonella intoxication.

Books Recommended:

1. Jay, J.M. 1986, Modern Food Microbiology, 3rd edition, an Nostrand Reinhold.
2. Banwari, G.J., 1989, Basic Food Microbiology, CBS Publishers and Distributions, New Delhi.
3. Frazier, W.C. and Westhoff, D.C. 1995, Food Microbiology, Tata McGraw Hill Publishing Co., Ltd., New Delhi.

SEMESTER–II
INDUSTRIAL MICROBIOLOGY (VOCATIONAL)

(PRACTICAL)

Time: 4 Hours **Marks: 25**

1. To study the practical growth curve of bacteria
2. To enumerate the total microbial cells in a suspension by the serial dilution and pour plating.
3. To enumerate the total bacteria in milk by direct microscopic count.
4. To measure the size of microbial cell by ocular micrometer.
5. To study the morphology of bacteria, yeast and molds.
6. To check the bacteriological quality of raw milk of methlene blue the reduction test.

SEMESTER–II
MICROBIAL & FOOD TECHNOLOGY

FUNDAMENTALS OF FOOD PROCESSING AND TECHNOLOGY (THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Papers Setters:

There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3–4 lines). However no multiple choice one–word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

UNIT–I

Cereal & Cereal Products: Structure and composition of wheat and rice, milling of wheat, shelling and polishing rice, Preparation of bread by straight dough, sponge dough & continuous methods.

Oil & Fats Technology: Rendering Pressing, Solvent extraction, refining & hydrogenation.

UNIT–II

Milk & Milk Products Technology: Standardized milk, Toned milk, Double toned milk Clarification, Pasteurization & Homogenization of milk. Manufacturing of procured cheese, cheddar cheese, Fermented milks (Cultured butter–milk, yogurt, Acidophilus milk, Kefir & Kumiss).

UNIT–III

Fruit & Vegetable Technology: Canning, Preparation of vinegar, Jam, Jellies & Pickles. **Egg, Meat & Fish Technology**: Preservation mehods of egg, spray drying of egg. Tenderization and curing of meat, dressing of poultry, Rigor mortis of fish, preservation methods of fish.

UNIT–IV

Spices & Flavour Technology: List of major & minor spices of India, Traditional & Cryo milling of spices. Preparation of oleoresins, essential oils, spice decoctions & encapsulated spices.

Food Packaging Technology: Types of containers, (Primary, Secondary & Tertiary) Form–fill–seal packaging, Aseptic packaging Food packaging materials & forms glass containers, laminates, metal cans & Retortable pouches.

Books:

1. Lal G., Siddappa, G.S. & Tandon G.L. Preservation of fruits & vegetables. Publication & Information Division. I.C.A.R., New Delhi.
2. Desrosier N.W. & Desrosier J.N. The technology of food preservation, 4th edition, CBS Publishers & Distributors.
3. Sukumar De. Outlines of Dairy Technology. Oxford University Press.
4. Potter N.N. & Hotehkiss J.H. Food Science, 5th edition CBS Publishers & Distributors.
5. Manay N.S. & Shadaksharaswamy M. Foods Facts & Principles. New Age International Ltd., Publishers.
6. Kent, N.L. Technology of Cereal Processing.

SEMESTER–II
MICROBIAL & FOOD TECHNOLOGY

FUNDAMENTAL AND FOOD MICROBIOLOGY
(PRACTICAL)

Time: 4 Hours **Marks: 25**

1. To enumaerate the total number of bacteria by direct microscopic count.
2. To measure the size of microbial cell by ocular micrometer.
3. To study the morphology of bacteria, yeast and molds.
4. To check the bacteriological quality of raw milk of methlene the reduction test.
5. To study the typical growth curve of Bacteria.

SEMESTER–II
BOTANY
PAPER–II A: CELL BIOLOGY
(THEORY)

Time: 3 Hrs. **Marks: 35**
Theory Lectures: 3 Hours/Week

Instructions for the Paper Setters:
There will be a total of nine questions. Question No. 1 will be compulsory and questions in this will be of short answer–type (3–4 lines). No multiple choice questions, answer of one–word answer type be set. The remaining 8 questions will be set from equal distribution of the syllabus out of which candidates will be required to attempt 4 questions. All questions (including Q. No. 1) will have equal marks i.e. 7 each.

Structure and Function of Nucleus; Ultrastructure; nuclear membrane; nucleolus.
Extranuclear Genome: Presence and function of mitochondrial and plastid DNA; plasmids.
Structure and Function of other Organelles: Golgi, ER, peroxisomes, Vacuoles.

Chromosome Organization: Morphology; centromere and telomere; chromosome alterations; deletions, duplications, translocations, inversions; variations in chromosome number, aneuploidy, polyploidy; sex chromosomes.

The Cell Envelopes: Plasma membrane; bilayer lipid structure; functions; the cell wall.

Suggested Readings:

1. Gupta, P.K. 1999, A Text–book of Cell and Molecular Biology, Rastogi Publications, Meerut, India.
2. Kleinsmith, L.J. and Kish, V.M. 1995. Principles of Cell and Molecular Biology (2nd edition). Harper Collins College Publishers, New York, USA.
3. Lodish, H., Berk, A., Zipursky, S.L., Matsudaira, P. Baltimoe. D. and Darnell, J. 2000. Molecular Cell Biology, W.H. Freeman & Co., New York, USA.
4. Russell, P.J., 1998, Genetics. The Benjamin/Cummings Publishing Co., Inc., USA.
5. Snustad, D.P. and Simmons, M.J., 2000, Principles of Genetics, John Wiley & Sons, Inc., USA.
6. Wolte, S.L., 1993, Molecular and Cell Biology, Wadsworth Publishing Co., California USA.

SEMESTER–II
BOTANY
PAPER–II B: GENETICS
(THEORY)

Time: 3 Hrs.
Theory Lectures: 3 Hours/Week **Marks: 35**

Instructions for the Paper Setters:
There will be a total of nine questions. Question No. 1 will be compulsory and questions in this will be of short answer–type (3–4 lines). No multiple choice questions, answer of one–word answer type be set. The remaining 8 questions will be set from equal distribution of the syllabus out of which candidates will be required to attempt 4 questions. All questions (including Q. No. 1) will have equal marks i.e. 7 each.

DNA the Genetic Material: DNA structure; replication; DNA–protein interaction; the nucleosome model; genetic code; satellite and repetitive DNA.
Cell Division: Mitosis; meiosis.

Genetic Inheritance: Mendelism; laws of segregation and independent assortment; linkage analysis; allelic and non–allelic interactions. Gene expression**:** Structure of gene; transfer of genetic informaton; transcription, translation, protein synthesis, tRNA; ribosomes; regulation of gene expression in prokaryotes and eukaryotes; proteins, ID, 2D, and 3D structure.
Genetic Variations: Mutations, spontaneous and induced; transposable genetic elements; DNA, damage and repair.

Suggested Readings:

1. Gupta, P.K. 1999, A Text–book of Cell and Molecular Biology, Rastogi Publications, Meerut, India.
2. Kleinsmith, L.J. and Kish, V.M. 1995. Principles of Cell and Molecular Biology (2nd edition). Harper Collins College Publishers, New York, USA.
3. Lodish, H., Berk, A., Zipursky, S.L., Matsudaira, P. Baltimoe. D. and Darnell, J. 2000. Molecular Cell Biology, W.H. Freeman & Co., New York, USA.
4. Russell, P.J., 1998, Genetics. The Benjamin/Cummings Publishing Co., Inc., USA.
5. Snustad, D.P. and Simmons, M.J., 2000, Principles of Genetics, John Wiley & Sons, Inc., USA.
6. Wolte, S.L., 1993, Molecular and Cell Biology, Wadsworth Publishing Co., California USA.

SEMESTER–II
BOTANY
PRACTICAL–II (BASED ON PAPER–II A AND II B)

Practical Hours: 4½ Hours/week **Marks: 30**

Suggested Laboratory Exercises

Teachers may select plants/material available in their locality/institutions.

1. To study cell structure from onion leaf peels; demonstration of standing and mounting methods.
2. Comparative study of cell structure in onion cells, *Hydrilla* and *Spirogyra*. Study of cyclosis in *Tradescantia* Staminal Cells.
3. Study of plastids to examine pigment distribution in plants (e.g. *Cassia, Lycopersicon* and *Capsicum*).
4. Examination of electron micrographs of eukaryotic cells with special reference to organelles.
5. Study of electron micrographs of viruses, bacteria, cyanobacteria and eukaryotic cells for comparative cellular organization.
6. Examination of various stages of mitosis and mitosis using appropriate plants material (e.g. onion root tips, onion flower buds).
7. Preparation of karyotypes from dividing root tip cells and pollen grains.
8. Cytological examination of special types of chromosomes: bar body, lampbrush and polytene chromosomes.
9. Working out the laws of inheritance using seed mixtures.
10. Working out the mode of inheritance of linked genes from test cross and/or F2 data.

Suggested Readings

1. Fukui, K. and Nakayama, S. 1996. Plant Chromosomes; Laboratory Methods, CRC Press, Boca Raton, Florida.
2. Gunning, B.E.S. and Steer, M.W. 1996. Plant Cell Biology; Structure and Function, Jones and Barllett Publishers, Boston, Massachusetts.
3. Harns, N. and Oparka, K.J. 1994. Plant Cell Biology, A Practical Approach. IRL Press, at Oxford University Press, Oxford, UK.
4. Sharma, A.K. and Sharma, A. 1999. Plant Chromosomes; Analysis. Manipulation and Engineering, Harwood Academic Publishers, Australia.

SEMESTER–II
BIOINFORMATICS (VOCATIONAL)
BASIC MATHEMATICS, BIOSTATISTICS & DATABASE MANAGEMENT SYSTEMS (THEORY)

Time: 3 Hrs. **Max. Marks: 100**
Credit Hours: 6 **Theory Marks: 75**
Practical Marks: 25

Instructions for the Paper Setters and Candidates:
1. There will be a total of 9 questions.
2. Question 1 will be compulsory and will be of 10 short answer type. **(1½ X10=15)**
3. The remaining 8 questions shall include 2 questions from each UNIT. Candidates shall be required to attempt 1 question from each UNIT. All questions shall have equal marks **(15x4=60)**

UNIT–I

Matrices and Vectors: Matrix Algebra, -Addition, Subtraction, Multiplication, Transpose inverse and conjugate of a Matrix. Determinants (**upto third order)**, Vectors in space, Addition, Subtraction Dot, Cross and Scalar triple product.
Functions: Concept of functions, its domain and range, only graphs of some well known functions such as linear, exponential, sine and cos.
Coordinate Geometry: Equation of a line, circle.

Differentiation: Limits of functions, Complete Differentials (Simple examples), Partial differentials of functions with one variable.
Integration: Indefinite **(Simple examples)** and Introduction to Definite Integral.
Differential Equation: Ordinary Differential Equation of 1st order & 1st degree, Partial Differential equations.

UNIT–II

Elementary Statistics: The mean, median, mode, standard deviation, variance, covariance of data.
Probability: Basic concepts, sample space and events, use of counting method in probability, addition law, sample problems involving the estimation of probabilities, Conditional Probability and Independent Events, Bayes theorem.

Introduction to Correlation & Regression: Scatter diagram, Linear correlation, linear regression lines.
Probability Distributions: Bernoulli, Binomial, Poisson and Normal Distributions.

UNIT–III

Introduction to DBMS: Data, Information, Knowledge, Database approach, Characteristics of Database approach, Database System Concept, Components of Database System, DBMS, Database languages, DBMS Architecture and data Independence.
Data Models: ER Model Concepts, Notation for ER Diagram, Relational Model Concepts, relational Model Constraints.
Normalization and is forms like 1NF, 2NF, 3NF, BCNF, 4NF and 5NF. Functional Dependencies.

UNIT–IV

SQL: Introduction, DDL statements, DML statements, TCL statements, Queries in SQL: Nested Queries, Single row sub queries, multiple row sub queries, Multiple Column sub queries, views in SQL.

Introduction to PL/SQL: Basic Elements of PL/SQL, Procedures: Local and stored procedures, Functions: Local functions, Return statement and stored functions. Difference b/w procedures and functions.

Recommended Books:

1. Elhance D.N. (1984). Fundamentals of Statistics. *Kitab Mahal, Allahabad.*
2. Mendenhall W. and Sincich T. (1995). Statistics for Engineering and Sciences (IVth Edition). *Prentice Hall.* And sciences (IVth Edition). Prentice Hall.
3. Gupta S.P. (2000). Statistical Methods. *Sultan Chand and Company, New Delhi.*
4. Kapoor V.K. and Gupta S.C. (2000). Fundamentals of Mathematical Statistics. *Sultan Chand and Company, New Delhi.*
5. J. Crawshaw and J Chamber (2002). Advanced Level Statistics, 4th Edition, *Melson Thornes.*
6. Spiegel M.R. (1974). Theory and Problems of Advanced Calculus. *Tata McGraw Hill Company Ltd., New Delhi.*
7. Edward Batschelet (1992) "Introduction to Mathematics for Life Sciences", 3rd Edition, *Springer-Verlag.*
8. Brown R. (1994). Theory and Problems of Differential Equations. *Tata McGraw Hill Company Ltd., New Delhi.*
9. Kapoor V.K. and Gupta S.C. (2000) Fundamentals of Mathematical Statistics. *Sultan Chand and Company, New Delhi*
10. Nell and D. Qualing (2002) Pure Mathematics (Advanced Level Mathematics) Vol. 1, 2 & 3, *Cambridge University Press.*
11. Fundamentals of Database Systems by Elmasari and Navathe, Prentice Hall (India), 2001.
12. Fundamentals of DBMS: Anurag Gupta, Nishan Singh Dhillon, Jagmohan Magho, Anshuman Sharma.
13. Data Mining Concepts and Techniques-Jiawei Han, Micheline Kamber, *Morgan Kaufmann Publisher, 2001.*

SEMESTER–II
BIOINFORMATICS (VOCATIONAL)

PAPER-B: LAB IN DATABASE MANAGEMENT SYSTEMS (PRACTICAL)

Time: 3 Hrs **Marks: 25**
Credit Hours: 4½

Exercise to understand RDBMS: Oracle, SQL etc.

Usage of important Commands/instructions

DDL statements

DML statements

TCL statements

Queries in SQL

Operators

Functions

Views

Basic elements of PL/SQL

Procedures

Functions

SEMESTER–II
BIOTECHNOLOGY (VOCATIONAL)

GENETICS AND BIOCHEMISTRY
(THEORY)

Time: 3 Hrs. **Max. Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters and Candidates:

1. There will be a total of 9 questions.
2. Question 1 will be compulsory and will be of 10 short answer type. **(1½ x 10 = 15)**
3. The remaining 8 questions shall include 2 questions from each unit. Candidates shall be required to attempt 1 question from each unit. All questions shall have equal marks **(15 x 4 = 60)**

UNIT–I

Mendelian laws of inheritance; gene interactions. Sex determination in plants and animals, sex-linkage, non-disjunction as a proof of chromosomal theory of inheritance. Linkage; mapping genes; Chromosomes: chemical composition; structural organization of chromatids, centromeres, telomeres, chromatin, nucleosome organisation; eu-and heterochromatin; special chromosomes (e.g., polytene and lampbrush chromosomes; banding patterns in human chromosomes.

UNIT–II

Structural and numerical aberration involving chromosomes; Hereditary defects- Kleinefelter, Turner, Cri-du-Chat and Down syndromes. Mutations-spontaneous and induced; chemical and physical mutagens; induced mutations in plants, animals and microbes for economic benefit of man. Conjugation, transduction, transformation, isolation of auxotrophs, replica plating techniques. Extrachromosomal inheritance, mitochondrial and chloroplast genetic systems. Population genetics : Hardy-Weinberg equilibrium, gene and genotypic frequencies.

UNIT–III

Nature of biological material; Suitability of organic compounds for generation of structure, storage of energy and information; Hydrophilic and hydrophobic groups in biological molecules.

i) Carbohydrates, pepetidoglycans, polysaccharides and membrane lipids.
ii) The signal molecules: Hormones.

The repeating UNITs in nucleic acids and conformation of DNA (A, B & Z). Proteins, Helicity, bending, looping, pleats, salt bridges etc. and their determinants.

UNIT–IV

The basis for intermolecular interaction e.g. enzyme-substrate. Protein and nonprotein enzymes. Kinetics of enzyme catalysed reactions (first order), Enzyme inhibition. Enzymes and their applications in industry. Enzymes in food processing, medicine, diagnostics and production of new compounds. Enzymes as research tools-ELISA methods, modifications of biological compounds with the help of enzymes.

Books Recommended:

1. De-Robertis, F.D.P. and De-Robertis Jr. E.M.F. (1991), Cell and Molecular Biology, Saunders, Philadelphia.
2. Maloy, S.R. Crown, J.E. and Freifelder, D. (1994), Microbial Genetics: 2nd Edition, Jones & Bartlett Publishers.
3. Hartl. D.L. (1994), Genetics: 3rd Edition, Jones & Bartlett Publishers.
4. Lodish, H., Baltimore, D., Berk, A., Zipursky, S.L., Matsudaria, P and Darnell, J. (1995), Molecular Cell Biology, 3rd Edition, Scientific American Books Inc.
5. Brooker, R.J. (1999), Genetics: Analysis and Principles, Jim Green.
6. Antherly A.G., Girton. J.R. (1999). The Science of Genetics. Harcourt College Publishers.
7. Freifelder, D. (2000), Microbial Genetics, Narosa Publishing House.
8. Geoffrey, M. (2000), The Cell: A Molecular approach, 2nd Edition, ASM Press.
9. Hartl, D.L., Jones E.W., (2001). Genetics: Analysis of Genes & Genomes, 5th Edition Jones & Bartlett Publishers.

SEMESTER II

BIOTECHNOLOGY (VOCATIONAL)

(PRACTICAL)

Time: 3 Hours **Marks: 25**

Credit Hours: 6

I-Biochemical Techniques:

Verification of Beer Lamberts for P-nitrophenol or cobalt chloride.

Determination of pKa value of p nitrophenol

Quantitative estimation of the following in biological samples

Sugar in given solutions and biological samples

Extractions and separation of lipids

The determination of acid value of a fat

Estimation of proteins

Estimation of DNA/RNA

II-GENETICS

Demonstration of Law of Segregation (use of coloured
beads, capsules etc.).

Demonstration of Law of Independent Assortment (use of coloured
beads, capsules etc.).

Numerical problems based on of Law of Segregation and Law of Independent Assortment.

Numerical problems based on Paternity Disputes (Blood groups)

Preparation of slide of Barr Body.

Preparation and study of mitosis slides from onion root tips by squash method.

Dermatographics : Palm print taking and finger tip patterns.

Study of inheritance of Human Phenotypic Traits (ability to taste PTC/Thiourea, rolling of tongue etc.)

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Education)

SEMESTER–II
EDUCATION

PHILOSOPHICAL FOUNDATIONS OF EDUCATION

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:

Note: (i) The question paper will consists of five units: I, II, III, IV & V. Units I, II, III & IV will have two questions each carrying 20 marks. The students are to attempt one question from each unit approximately in 1000 words. Unit–V consists of 10 short answer type questions to be set from their entire syllabus and will carry 20 marks in all. Each short answer type question carries 2 marks, to be attempted in 8 to 10 lines.

UNIT–I

1. Philosophy of Education- Definition , nature and scope
2. Difference between philosophy of education & educational philosophy

UNIT–II

1. Relationship between Philosophy & Education.
2. Impact of Philosophy on different aspects of Education.

UNIT–III

1. Idealism –its main features & contribution to Education
2. Naturalism – its main features & contribution to Education

UNIT–IV

1. Pragmatism–its main features & contribution to Education
2. Meaning & importance of values; ways & means for inculcation of values.

UNIT–V

This unit (V) will consist of 10 short type questions to be set from the entire syllabus of first four units (I, II, III, IV)

Books Recommended:

1. Bhatia and Narang — Philosophical & Sociological Foundation of Education Doaba House, New Delhi, 1992.
2. Bhatia and Narang — Theory & Principles of Education, Parkash Brothers, Ludhiana, 1986.
3. Dayakar, Reddy, D. — Value Oriented Education, Discover Publishers, New Delhi, 2006.
4. Sodhi, T.S — Philosophical and Sociological Foundations of Education, Bawa Publications, Patiala, 2007.
5. Taneja, V.R. — Foundation of Education, Chandigarh, Mahindra Capital, Punjab, 2006.
6. Taneja. V.R. — Socio-Philosophical Approach to Education, Delhi : Atlantic Publishers, 1983

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Education)

SEMESTER–II

HUMAN RIGHTS

OUR DUTIES IN RELATION TO SOCIETY

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:
The question paper will consist of five sections A,B,C,D and E.Section A,B,C and D will have two questions from the respective portion of the syllabus and will carry 20 marks each.Section E will consist of 10 short answer type questions to be set from the entire syllabus i.e. sections A,B,C & D and will carry 20 marks in all ,such short answer type questions carry 2 marks.

Instructions for the Candidates:
Candidates are required to attempt one question each, from sections A,B,C and D of the question paper and the entire section E. The candidates are required to answer the short questions in not less than 50 words.

UNIT–I

Identification of human duties in relation to society.

UNIT–II

Duties towards self; family; neighborhood; environment and society at large.

UNIT–III

Conflicts in duty performance at individual level, socio cultural level; causes of these conflicts.

UNIT–IV

Suggestions for resolving conflicts and better duty performance at different levels-individual, organization work place, socio cultural level.

Recommended Books:

1. Vijay and Kumar, Perspectives on Human Rights, Manak Publications, New Delhi.
2. Khare, Subhash Chandra, Human Rights and UNITed Nations Metropolitan Co. New Delhi.
3. Iyer, V.R. Krishna, Human Rights and the Law, Vapul law, Indore.
4. Sharma, N.R. Human Rights in the World, Pointer Publishers, New Delhi.
5. Naseema, C. Human Rights Education, Kanishka Publishers, New Delhi.
6. Dikshit, R.C., (1998), Human Rights and the Law, Universal and Indian, New Delhi: Deep and Deep.
7. Kashyap, Subhash C., (1978), Human Rights and Parliament, Delhi: Metropolitan. Kirpal, B.N. et al., (2004), Supreme but Not Infallible, New Delhi: OUP

SEMESTER–II
DAIRY FARMING (VOCATIONAL)
(THEORY)

Max. Marks: 100
Time: 3 Hours **Theory Marks: 50**
Practical Marks: 50

Instructions for the Paper Setter:

1) Question paper should be set strictly according to the syllabus and in the Punjabi Language.
2) The language of questions should be straight and simple.
3) Theory paper shall consist of three parts:
   a. Ten short compulsory questions of 1 mark each requiring replies up to five lines each (Total marks: 10x1=10 marks).
   b. Ten questions of 3 marks each requiring short replies shall be asked. The candidate has the choice to attempt eight questions (Total marks 8x3=24).
   c. Four questions of descriptive type requiring five pages for each answer shall be asked. The candidate has the choice to attempt two questions. (Total marks : 08x02=16)
4) The question paper should cover the whole syllabus.

Anatomy and Physiology
Anatomy & Physiology of udder. Milk synthesis and its secretion including let down of milk. Digestive and reproductive system of cattle

Feeding Practices
Classification of feeding stuffs. Study of roughages and concentrates. Silage and hay making. General principles of feeding cattle & buffaloes.

Management
1) General care of cattle, grooming, exercise, bathing, oestrus observation, care during pregnancy, parturition, milking, clean milk production, drying off.
2) Care of calves: Care and feeding of weaned calves, Identification marks (tattooing, branding and ear tagging) disbudding and castration etc.
3) Principles of grading up in cattles. Various systems of breeding i.e. inbreeding, out breeding and crossbreeding. Importance of Sire & Dam.
4) Artificial insemination, Merits and Demerits thereof.

Diseases and their Control

Common infections and contagious diseases, their causes, symptoms and treatment. Vaccination schedule. Deworming and tick control.

SEMESTER–II

DAIRY FARMING (VOCATIONAL)
(PRACTICAL)

Time: 3 Hours **Marks: 50**

1. Identification of various feed stuffs.
2. Identification and numbering of animals:
   a) Tattooing, b) Notching, c) Branding, d) Eartagging
3. Disbudding: Caustic touch, Hot iron method, Eclectric dehorner.
4. Collection of semen, its evaluation and extension (Demonstration only)
5. Techniques of artificial insemination (Demonstration only).

SEMESTER–II

RSL121: RUSSIAN

PAPER–I APPLIED GRAMMAR (WRITTEN)

Time: 3 Hrs. **Max. Marks: 40**

Grammar

- All the cases in singular form (Nouns only).
- Verbs of motion without prefixes: идти-ходить, ехать-ездить
- “который” in simple form

SEMESTER–II

RSL121: RUSSIAN

PAPER–II: TRANSLATION (WRITTEN)

Time: 3 Hrs. **M. Marks: 40**

1.	Translation from English into Russian. (Unseen passage or simple sentences)	**Marks: 20**
2.	Translation from Russian into English. (Seen passage or simple sentences)	**Marks: 10**
3.	Write a small paragraph (one out of three topics)	**Marks: 10**

Topics: My friend; about myself; My family; My classroom My teacher

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

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Languages)

SEMESTER–II

RSL–121: RUSSIAN

PAPER–III (ORAL)

Max. Marks: 20

- Reading of a text **Marks: 05**
- Dictation **Marks: 05**
- Simple conversation **Marks: 10**

Prescribed Text-Book:

RUSSIAN" – by Wagner V.N. & Ovsienko Y.G. (Lessons 13to 25)

Recommended Books:

1. Langenscheidt Pocket Russian Dictionary.
2. Russian for Indians by Hem Chandra Pande

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Languages)

SEMESTER–II

FRL–121: FRENCH

PAPER–I: (COMPREHENSION & COMPOSITION)
(WRITTEN)

Time: 3 Hrs. **Max. Marks: 40**

1. Questions of general comprehension related to the text.
   e.g.:- Qu'est- ce que vous ferez si vous allez en France ? **Marks: 10**
   Qu'est- ce que vous ferez si vous allez en France?
2. Questions on comprehension of an unseen passage of about 200 words. **Marks: 10**
3. Composition of a small paragraph on general topics pertaining to the text. E.g.: Ma maison, Mon professeur, Ma famille, Une ville touristique, Un pique-nique. (One out of two topics) **Marks: 10**
4. Make sentences:- **Marks: 10**
   e.g. avoir faim,etre debout, à côte dé, au milieu de (5 out of 10)

SEMESTER–II

FRL–121: FRENCH

PAPER–II: (TRANSLATION)

(WRITTEN)

Time: 3 Hrs. **M. Marks: 40**

1. Translation of a simple unseen passage or short sentences from English into French. **Marks: 10**
2. Translation of a simple unseen passage or short sentences from French into English **Marks: 10**
3. Questions on applied grammar pertaining to the text-book. **Marks: 20**

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

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(Faculty of Languages)

SEMESTER–II

FRL–121: FRENCH

PAPER–III (ORAL)

Max. Marks: 20

- Reading of a text **Marks: 05**
- Dictation **Marks: 05**
- Simple conversation **Marks: 05**
- Oral Comprehension **Marks: 05**

Prescribed Textbook:

"CONNEXIONS-1" by Regine Merieux & Yves Loiseau, Published by Didier

Recommended Book:

Nouveau Sans Frontières 1 by Philippe Dominique & Jacky Girardet

SEMESTER–II
URDU

URL–102: ESSAY, COMPOSITION, MEDIA AND INFORMATION

Time: 3 Hours **Max. Marks: 100**

A. Essay and Composition:

Essay
Letter/application
Opposite words, Numbers, Genders and Idioms

A. Media and Information:

News Paper, Journals, Radio and TV: Introduction and Importance

UNITS AND THEME

1.	Essay (One out of five)	**25x01=25 Marks**
2.	Letter/application (One out Two)	**15x01=15 Marks**
3.	Theme/ Summary/ central Idea of a Poem or Lesson	**10x01=10 Marks**
4.	Opposite words, Numbers, Genders and Idioms	**05x04=20 Marks**
5.	News paper, Journals, Radio and TV	**15x02=30 Marks**

Books Recommended:

1. Guldasta-e-Mazamin-o-Insha Pardazi, Part-II by Dr. Aarif Mohammad Khan, Published by M/S Educational Book House, A.M.U. Market, Aligarh.
2. Akhbar Ki Kahani by Ghulam Haider, Taraqqi Urdu Board, New Delhi.
3. Rehbar-e-Akhbar Navisi by Syed Iqbal Qadri, Taraqqi Urdu Board, New Delhi.
4. Urdu Sahafat Ki Tarikh by Nadir Ali Khan, National Council for Promotion of Urdu, R.K.Puram, New Delhi.
5. Television Ki Sahafat by Shakil Hasan Shamsi, Educational Book House, AMU Market, Aligarh.
6. Television Nashariyat by Anjum Usmani, Educational Book House, AMU Market, Aligarh.

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Languages)

SEMESTER–II

PRL–102: PERSIAN

COMPOSITION AND GRAMMAR

Time: 3 Hours **Max. Marks: 100**

a) **Composition**

1. Short Essay (at least ten sentences in Persian on any one of the following)
   Rafique Man , Darsgah-e-Man, Watan-e-Azizam, Sha'ir-e-Maroof, Kitabi ke Man Pasandam, Fasalha -e- Hind, Amozgaram, Mashaghil, Khuda-e-bartar & Ahmiyat-o-Favaid-e-Riyazat-e-Badani.
2. Translation of unseen passage or sentences in Urdu/English/Hindi/Punjabi.
3. Translation of simple Sentences into Persian.

b) Grammar: Definitions and kinds:-

Nihad-o-Guzare, Fail–o-Zamane Fail (Mazi, Haal, Mustaqbal & Muzare) Shakhs (Avval, Dom & Som), Shakhs (Mufarrad and Jama), Fa'il, Ism, its kinds & Numbers and Zamir.

c) Media and Information:

News paper, Journals, Radio and T V: Introduction and Importance

UNITS AND THEME

1. Essay (One out of five) **20x1=20 Marks**
2. Letter/application (One out Two) **10x1=10 Marks**
3. Theme/ Summary/ central Idea of a Poem or Lesson **10x1=10 Marks**
4. Opposite words, Numbers and Genders **10x3=30 Marks**
5. News Paper, Journals, Radio and TV **15x2=30 Marks**

Books Prescribed:

Farsi-o-Dastur, Zohra Khanlari, Edara Adabyat, Sadar Bazaar Delhi,110006,
(Pages: 18, 32, 33, 43, 44, 52, 54, 63, 64, 75, 76, 91, 92, 101,102, 111,112,120 &121.)

Farsi-o-Dastur Tarjuma, Part-II, by Dr. Nargis Jahan, published by Idara Adabiyat, Sadar Bazaar, Delhi.

Books Recommended:

1. Akhbar Ki Kahani by Ghulam Haider, Taraqqi Urdu Board, New Delhi
2. Rehbar-e-Akhbar Navisi by Syed Iqbal Qadri, Taraqqi Urdu Board, New Delhi
3. Urdu Sahafat Ki Tarikh by Nadir Ali Khan, Urdu Academy, Delhi
4. Television Ki Sahafat by Shakeel Hasan Shamsi, 37- Johri Mohalla, Lucknow
5. Television Nashariyat by Anjum Usmani, Maktaba Jamia Ltd., Jamianagar, Delhi-25

SEMESTER–II

HINDI (Elective)
हिन्दी
गद्य साहित्य, सैद्धांतिकी तथा पत्रकारिता

समय : 3 घण्टे **कुल अंकः 100**

नोटः यह प्रश्न-पत्र तीन भागों में विभक्त होगा ।

खण्ड-एक

इस भाग में से 10 प्रश्न पूछे जाएंगे। इस का पांच पंक्तियों में उत्तर देना होगा। इस भाग के सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न दो अंकों का है। कुल अंक 20 हैं।

खण्ड-दो

इस भाग में 12 प्रश्न पूछे जाएंगे जिन में से 8 प्रश्नों का उत्तर देना अनिवार्य होगा। प्रत्येक प्रश्न का उत्तर दो पृष्ठों तक सीमित होगा। प्रत्येक प्रश्न के छः अंक हैं। कुल अंक 48 है।

खण्ड-तीन

इस भाग में 4 प्रश्न पूछे जाएंगे जिन में से दो प्रश्नों का उत्तर देना अनिवार्य है। प्रत्येक प्रश्न का उत्तर पांच पृष्ठों का होगा। प्रत्येक प्रश्न सोलह अंकों का होगा। कुल अंक 32 हैं।

निर्धारित पाठ्यक्रमः

पाठ्य पुस्तकें

1. गद्य-त्रिवेणीः सम्पादक प्रो.;डॉ.द्ध सुखविन्दर कौर बाठ, अध्यक्ष, प्रकाशकःप्रेस एण्ड पब्लिकेशन ब्यूरो, गुरु नानक देव विश्वविद्यालय, अमृतसर। प्रत्येक विधा की पहली तीन-तीन रचनाएं पाठ्यक्रम में रखी गई हैं।
2. आदर्श हिंदी व्याकरण और सैद्धांतिकीः डॉण्एचण्एमण् लाल सूद, वागीश प्रकाशन, जालंधर।
   क. सैद्धान्तिकी : निबन्ध, कहानी, एकांकी, परिभाषा स्वरुप, तत्व प्रकार |
   ख. अशुद्धि लेखन, शब्द युग्म।
3. पत्रकारिता- अर्थ एवं उपयोगिता

विषयानुकूल अंक विभाजन

1. प्रथम खण्ड में पाठ्य पुस्तक तथा सैद्धांतिकी से समान अनुपात से प्रश्न पूछे जायेंगे।
2. दूसरे खण्ड में कहानियों, एकांकी तथा निबंधों से दो-दो व्याख्याएं पूछी जायेंगी जिनमें से एक-एक करनी अनिवार्य होंगी। शेष में तीन प्रश्न सैद्धान्तिकी तथा तीन प्रश्न पाठ्य पुस्तक से तथा दो प्रश्न पत्रकारिता से पूछे जायेंगे। प्रत्येक क्षेत्र में से कम से कम एक प्रश्न का उत्तर देना अनिवार्य होगा।कुल आठ प्रश्न अनिवार्य हैं।
3. तीसरे खण्ड में दो प्रश्न पाठ्य पुस्तक तथा दो सैद्धान्तिक समीक्षा से पूछे जायेंगे और उनमें से एक-एक प्रश्न करना अनिवार्य होगा।

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Languages)

SEMESTER–II

FUNCTIONAL HINDI (VOCATIONAL)
(Q;D'kuy fgUnh)

i;kstukRed vkj 0;olkf;d i=kpkj ,oa HkkfDrdkyhu fgUnh lkfgR; dk lanHk

le;% 3 ?kaVs i.kkad % 60

क) यह प्रश्नपत्र तीन भागों में बँटा हुआ है। पहले भाग में दस प्रश्न पूछे जाएंगे। इस भाग के सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न एक अंक का है। कुल अंक 10 हैं।

ख) इस भाग में 10 प्रश्न पूछे जाएंगे जिन में से 5 प्रश्नों का उत्तर देना है। इन प्रश्नों का उत्तर 2 पृष्ठों की सीमा का होगा। प्रत्येक प्रश्न के 6 अंक हैं। कुल अंक 30 हैं।

ग) इस भाग में 4 प्रश्न पूछे जाएंगे जिनमें से 2 प्रश्नों का उत्तर देना अनिवार्य है। कुल अंक 20 हैं।

fu/kkfjr ikB;Øe

d½ i;kstukRed fgUnh

- प्रयोजनमूलक हिन्दी : अभिप्राय, परिभाषा और स्वरूप
- प्रयोजनमूलक हिन्दी : आवश्यकता और विशेषताएँ

[k½ i;kstukRed i=kpkj

सामान्य पत्र और प्रशासनिक–पत्रों के भेद, मूलरूप में पत्र लिखना (Originating letter), पत्र का उत्तर देना (Reply to letter), पावती (Acknowledgement), स्मारक/स्मरण पत्र (Reminder), अर्धसरकारी पत्र (Semi-official letter), परिपत्र (Circular), आदेश (Order), पृष्ठांकन (Endorsement), अन्तर्विभागीय टिप्पणी (Inter-Department Notes), स्तरीय प्रारूप (Standard Drafts), निविदा (Tenders), सूचनाएं (Notices), रिक्त स्थानों के लिए विज्ञापन (Advertisement for Vacancies)

x½ 0;kolkf;d i=kpkj

- व्यवसाय : सामान्य परिचय
- व्यवसाय : अर्थ और परिभाषा
- व्यावसाय : प्रयोजन
- व्यावसायिक पत्राचार
- व्यावसायिक पत्राचार : अवधारणा और प्रयोजन

- lkekU; i=kpkj] dk;kZy;hu i=kpkj vkj 0;kolkf;d i=kpkj % vUrj
  - व्यावसायिक पत्राचार : भेद
  - प्रस्ताव पत्र
  - भाव दर सूची
  - बीजक / विधेयक
  - आदेश–पत्र
  - रसीद
  - भुगतान सूचना

?k½ HkkfDrdkyhu fgUnh lkfgR; dk lanHkZ % ifjfLFkfr;k¡] fo'ks"krk,¡ vkj Lo.kZ;qx

vad foHkktu

- प्रथम भाग में 'ख' भाग से प्रश्न पूछे जाएंगे। 1×10=10
- द्वितीय भाग में भाग 'ख' और 'ग' में से प्रश्न पूछे जाएंगे। 5×6=30
- तृतीय भाग में भाग 'क' और 'घ' में से प्रश्न पूछे जाएंगे। 2×10=20

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Languages)

SEMESTER–II

FUNCTIONAL HINDI (VOCATIONAL)
(QD'kuy fgUnh)

i;kx vkj ekf[kdh

i.kkd % 40

– विद्यार्थियों को प्रति समस्तर 40 अंक की प्रयोग पुस्तिका तैयार करनी होगी। जिसमें 20 अंक मौखिक परीक्षा के ओर 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;kx dk fo'k;%

– प्रशासनिक पत्रों का प्रारूप तैयार करने का अभ्यास
– व्यावसायिक पत्र–लेखन का अभ्यास और प्रारूप तैयार करना
– महाविद्यालयों में आयोजित कार्यक्रमों की रिर्पोट तैयार करने का अभ्यास
– विभिन्न घटित घटनाओं की रिर्पोट तैयार करने का अभ्यास
– पावर–प्वाइंट प्रस्तुति

SEMESTER–II

Hindi Patrakarita (Vocational)
(fgUnh i=dkfjrk)

tulapkj vkSj iz:l dkuwu

le;% 3 ?kaVs i.kkad % 60

क) यह प्रश्न पत्र तीन भागों में बँटा हुआ है। पहले भाग में से दस प्रश्न पूछे जाएंगे। इस भाग के सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न 1 (एक) अंक का होगा। dqy vad 10 gSA

ख) इस भाग में से 8 प्रश्न पूछे जांएगे जिनमें से 5 प्रश्नों का उत्तर देना होगा। इन प्रश्नों का उत्तर दो पृष्ठों तक की सीमा का होगा। प्रत्येक प्रश्न के 6 अंक हैं। dqy vad 30 gSA

ग) इस भाग में से 4 प्रश्न पूछे जाएंगे जिनमें से 2 प्रश्नों का उत्तर देना होगा। इन प्रश्नों का उत्तर 3–4 पृष्ठों तक सीमित होगा। प्रत्येक प्रश्न के 10 अंक हैं। dqy vad 20 gSA

<u>fu/kkfjr ikB~;Øe</u>

d½ lapkj % lkekU; ifjp;

- संचार : सामान्य परिचय
- संचार : अर्थ और परिभाषा
- संचार : प्रक्रिया के प्रमुख तत्व
- संचार के प्रकार

[k½ tulapkj % lkekU; ifjp;

- जनसंचार : अर्थ और परिभाषा
- जनसंचार की विशेषताएँ
- जनसंचार के प्रकार/माध्यम : सामान्य परिचय
- समाचार, आकाशवाणी, दूरदर्शन
- जनसंचार माध्यमों का विकास : वर्तमान संचार व्यवस्था
- मल्टीमीडिया (बहुमाध्यम), उपग्रह, पेजर, टेलीप्रिंटर, टेलेक्स, टेलीफोन, वॉकी–टॉकी, सेल्युलर या मोबाइल फोन, वीडियोफोन (फोटोफोन), फैक्स, वीडियोटेक्स्ट, टेलीटेक्स्ट, एस.टी.डी., आई.एस.डी., इंटरकॉम, टेलीकान्फ्रेन्स

x½ tulapkj ik|kfxdh dh pukfr;k¡ %

– जनसंचार और हिन्दी भाषा

– जनसंचार माध्यम : हिन्दी भाषा का प्रयोग

vad foHkktu

& प्रथम खंड में भाग 'क' में से प्रश्न पूछे जाएंगे। 1×10=10

– द्वितीय खंड में भाग 'ख' में से प्रश्न पूछे जाएंगे। 5×6=30

– तृतीय खंड में भाग 'क' 'ख' और 'ग' में से प्रश्न पूछे जाएंगे। 2×10=20

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Languages)

SEMESTER–II

HINDI PATRAKARITA (VOCATIONAL)
(fgUnh i=dkfjrk)

i;kx vkj ekf[kdh

i.kkad % 40

– विद्यार्थियों को प्रति समस्तर 40 अंक की प्रयोग पुस्तिका तैयार करनी होगी। जिसमें 20 अंक मौखिक परीक्षा के ओर 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;kx dk fo"k;

– विभिन्न कार्यक्रमों की रिपोर्ट तैयार करने का अभ्यास
– कार्यक्रमों की कवरेज में कैमरे का प्रयोग
– सैमीनार/पावर प्वाइंट प्रस्तुति
– समाचार लिखने का अभ्यास
– हिन्दी समाचार लेखन : विविध आयाम
– समाचार लिखते समय किन–किन आवश्यक बातों का ध्यान रखना चाहिए : अभ्यास
– विद्यार्थियों को समाचार प्रका ान कार्यालय में लेकर जाना

SEMESTER–II

SANSKRIT (ELECTIVE)

¼dk0;] 0;kdj.k ,o vuqokn½

le;&3 ?k.Vs	i.kkZad&100

iz'u&i= dk ek/;e fgUnh gksxkA mÙkj laLd`r@fgUnh@iatkch@vaxzsth esa gksa ldrs gSaA

<u>iz'ui= fuekZ.k funsZ'k</u> &

I uhfr'krd ds fu/kkZfjr va'k ds 6 i|ksa esa ls 3 dh izlax lfgr 0;k[;k & 3x10 = 30

II uhfr'krd ds fu/kkZfjr va'k dh 4 lfDr;ksa esa ls 2 dh izlax lfgr 0;k[;k & 2x5 = 10

III uhfr'krd ds fu/kkZfjr fcUnqvksa ij 2 iz'u esa ls ,d dk mÙkj & 1x10 = 10

IV 8 esa ls 4 ds 'kCn:i & 4x5 = 20

V 10 esa ls 5 inksa ds ;ksx es@dkjdksa esa vkus okyh foHkfDr fy[kokuk & 5x2 = 10

VI 10 esa ls 5 /kkrqvksa ds lkFk fufnZ"V iR;; yxkdj dn`Ur :i & 5x2 = 10

VII lkekU; Lrj ds 10 fgUnh okD;ksa esa ls 5 dk laLd`r esa vuqokn & 5x2 = 10

<u>ikB;Øe</u> &

¼d½ Hkr`gfj dk uhfr'krd ¼1 ls 50 'yksd½ 50 vad

iz'uksa ds fy, fu/kkZfjr fcUnq &

fo|kefgek /ku egÙo esa[kZi)fr fo}kua i)fr lRlaxfr

fu/kkZfjr va'k dk lkj@egÙo] dfoifjp;A

¼[k½ 0;kdj.k 50 vad

'kCn:i & jke gfj Qy nso fir iLrd lk/k

yrk jek ekr unh x#

rFkk

,d f} f= prqj ¼ifyx e½

dkjd & vfHkr% ifjr% lo"r% vye lg lk/ke lkde

lee le;k fud"kk vUrjk vUrj.k f/kd ue%

LofLr Lokgk vu fouk ds ;kx e foHkfDr

dnUr :i & Hk iB gl fy[k on xe ir n'k Le ip

nk 'kd J d /kkr vk ds lkFk Dr] Dror DRok] r eu] r0;r rFkk

vuh;j iR;;k dk ;kxA

vuokn & fgUnh ls lLd r

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Languages)

SEMESTER–II
FUNCTIONAL SANSKRIT (VOCATIONAL)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 84
Practical Marks: 16

Note: Paper will have 3 Sections i.e. Section A, B & C. Question Paper will be set in Hindi.

SECTION–A

In this Section 10 objective type questions of 2 marks each will be asked. All questions will be compulsory with a total weightage of 20 marks.

SECTION–B

In this Section 12 short answer type questions will be asked. Candidates will have to attempt 8 questions carrying 6 marks each with a total weightage of 48 marks.

SECTION–C

In this Section 4 questions will be asked. Candidates will have to attempt 2 questions. Each question will carry 8 marks. Practical will carry 16 marks with a total weightage of 32 marks. **16 (Written) + 16 (Practical)**

ikB;Øe &

fuR;de fofo/k fo/kku

lkekU; no i tk fof/k

"kkM'kkipkjfof/k

fof'k"Vnoi tkfof/k

ip;Kdefof/k

"kkM'k lLdkj % lkekU; ifjp;

lLdkjk dk mnn'; ,o i;kt u

xHkk/kku lLdkj

i lou lLdkj

fookg lLdkj

o.kkJe 0;oLFkk % lkekU; ifjp;

SEMESTER–II
ENGLISH (COMPULSORY)

Time: 3 Hours **Max. Marks: 50**

Texts Prescribed:

1. *Tales of Life* (Guru Nanak Dev University, Amritsar)
2. *Prose for Young Learners* (Guru Nanak Dev University, Amritsar)
3. *English Grammar in Use* (Fourth Edition) by Raymond Murphy, CUP

Course Contents:

1. *Tales of Life*: Stories at Sr. No. 7,9,10,11 and 12
2. *Prose for Young Learners*: Essays at Sr. No. 7,8,9,10 and 11
3. *English Grammar in Use* (Fourth Edition) by Raymond Murphy, CUP: Units 49-97

Instructions for the Paper-Setter and Distribution of Marks:
The paper setters should avoid questions of theoretical nature on English Grammar.

The question paper will consist of three sections and distributions of marks will be as under:

Section-A: 16 Marks
Section-B: 20 Marks
Section-C: 14 Marks

SECTION-A

I. TWENTY (20) questions on the usage of grammar related to units 49-97 of *English Grammar in Use* will be set for the students to attempt any SIXTEEN (16) of these questions.
(1X16=16 Marks)

SECTION-B

2. EIGHT (8) questions (four from each literary text) on theme, characterization, tone and style etc. will be set for the students to attempt any FOUR questions, choosing at least TWO from each prescribed text. The answer to each question should not exceed 15-20 sentences.
(3x4=12 Marks)

3. A question requiring the students to write the meaning and usage of four vocabulary items, two from each literary text, will be set. **(1x4=4 Marks)**

4. The students will be required to write a personal letter on ONE of the TWO situations/ issues provided in the question paper. **(4 Marks)**

SECTION-C

5. TWO questions, one from each literary text, will be set. The students will be required to answer any ONE. **(1x6=6 Marks)**

6. The students will be required to answer FOUR short questions showing their comprehension of a passage (about 200 words) selected from either of the prescribed literary books (4 short questions of 2 marks each) **(2x4=8 Marks)**

SEMESTER–II
ENGLISH (ELECTIVE)

Time: 3 Hours **Max. Marks: 100**

Books Prescribed:

1. *The Vendor of Sweets* by R.K. Narayan.
2. *The School for Scandal* by Sheridan
3. *Glossary of Literary Terms* by M.H. Abrams, Wadsworth CENGAGE Learning Publishers, 8th Edn., 2008.
4. *Better Pronunciation of English* by J.D.O'Connor

Course Contents:

1. *The Vendor of Sweets*-- Complete Text
2. *The School for Scandal*—Complete Text
3. Literary Terms: Burlesque, Elegy, Hyperbole, Metaphor, Poetic Justice, Point of view, Dramatic Monologue, Tragicomedy
4. Transcription of Words: garage, data, menu, hello, cadet, exit, rebel (n), rebel (v), conduct(n), conduct (v), consume, idiot, depot, madam, handsome, petrol, perfect (adj.), perfect (v), vehicle, healthy, wealthy, police, sandwich, career, talent

Distribution of Marks & Instructions for the Paper Setters:

The question paper will consist of three sections and distribution of marks will be as under:

Section A: 20 Marks
Section B: 48 Marks
Section C: 32 Marks

SECTION–A

I. FIVE questions, each to be answered in 5-7 sentences, from the play & the novel prescribed in the syllabus. All questions will be compulsory. **(2x5=10 Marks)**

II. Transcription of TEN words, five from the prescribed list and five other disyllabic words. **(1x10=10 Marks)**

SECTION–B

I. Explanation with reference to the context from the play (1 out of 2). **(1x6=6 Marks)**

II. TWO out of the THREE questions on literary aspects of the prescribed play. **(6x2= 12 Marks)**

III. THREE out of the FOUR questions on literary aspects of the prescribed novel. **(6x3= 18 Marks)**

IV. Notes on TWO Literary Terms out of those prescribed in the syllabus. **(6x2= 12 Marks)**

SECTION–C

I. An essay type question, with internal choice, requiring answer on theme, characterization, plot, tone, and style etc. of the prescribed play. **(16 Marks)**

II. An essay type question, with internal choice, requiring answer on theme, characterization, plot, tone, and style etc. of the prescribed novel. **(16 Marks)**

SEMESTER–II
FUNCTIONAL ENGLISH
(VOCATIONAL)

REMEDIAL GRAMMAR

Time: 3 Hours **Max. Marks: 100**

Books Prescribed:

1. *Collins Cobuild English Grammar*: Work Book.
2. *Grammar and Composition for Communication* by S.M. Gupta & Alpana Gupta; Orient Blackswan
3. *Remedial Grammar for Foreign Students*, by F T. Wood; Macmillan

Course Contents:

UNIT–I

Nouns: Singular & Plural;
Articles: Definite/ Indefinite;
Verbs: Intransitive/transitive verbs; regular/Irregular verbs; Auxiliary Verbs.
Adjectives, Adverbs, Prepositions and Pronouns

UNIT–II

Tenses and their use
Adjective–Adverb confusion
Difficulties with comparatives and superlatives
Gerunds and participle confusion
Errors of concord

UNIT–III

Types of Sentences:
Declarative, Interrogative, Imperative;
Negative & affirmative
Passive/Active Voice
Direct–Indirect speech

UNIT–IV

Use of Question Tags,
Use of Who–whom, much–many, still–yet, so that, so as, make and do etc.
Use of individual words
Use of courtesy words for introduction, complaints, refusals, requests, greetings

UNIT–VI

Beyond Sentence: Connecting sentences
Coordination and subordination
Cohesion: Reference, ellipsis, substitution, repetition
Use of Conjunctions to develop texts

Distribution of Marks & Instructions for the Paper Setters:

The question paper will consist of three sections and distribution of marks will be as under:

Section A: 20 Marks

Section B: 48 Marks

Section C: 32 Marks

SECTION–A

TEN questions requiring examinees to define/ describe / illustrate with examples etc. to show their understanding of a grammatical concept. **(2x10 = 20 Marks)**

SECTION–B

I. FIVE questions comprising exercises to test the use of grammar in context. The examinees will attempt any FOUR of these questions. **(6x4 = 24 Marks)**

II. FIVE questions requiring examinees to write short notes on aspects of grammar. *But the language of the questions should not be like—write short notes….* The examinees will attempt any FOUR of these questions. **(6x4 =24 Marks)**

SECTION–C

I. ONE question on applying the grammar of coordination, subordination, cohesion etc. as linguistic strategies to write a short passage. **(16 Marks)**

II. ONE question requiring the students to correct the use of grammar and rewrite a passage of about 250 words. **(16 Marks)**

SEMESTER–II

Punjabi (Compulsory)
ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)

ਸਮਾਂ : 3 ਘੰਟੇ **ਕੁਲ ਅੰਕ : 50**

ਪਾਠ–ਕ੍ਰਮ ਅਤੇ ਪਾਠ–ਪੁਸਤਕਾਂ

1. **ਦੋ ਰੰਗ** (ਕਹਾਣੀ ਭਾਗ) (ਸੰਪਾ. ਹਰਜਿੰਦਰ ਸਿੰਘ ਢਿੱਲੋਂ ਅਤੇ ਪ੍ਰੀਤਮ ਸਿੰਘ ਸਰਗੋਧੀਆ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
2. **ਪੰਜਾਬ ਦੇ ਮਹਾਨ ਕਲਾਕਾਰ** (ਬਲਵੰਤ ਗਾਰਗੀ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ। ਲੇਖ : ਸਤੀਸ਼ ਗੁਜਰਾਲ, ਗੁਰਚਰਨ ਸਿੰਘ, ਠਾਕੁਰ ਸਿੰਘ, ਬਲਰਾਜ ਸਾਹਨੀ, ਸੁਰਿੰਦਰ ਕੌਰ।
3. **ਸ਼ਬਦ–ਬਣਤਰ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ** : ਪਰਿਭਾਸ਼ਾ, ਮੁਢਲੇ ਸੰਕਲਪ।
4. **ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ**
5. **ਪੈਰ੍ਹਾ ਰਚਨਾ**
6. **ਪੈਰ੍ਹਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ**
7. **ਮੁਹਾਵਰੇ ਅਤੇ ਅਖਾਣ**

ਅੰਕ–ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਕਿਸੇ ਕਹਾਣੀ ਦਾ ਸਾਰ ਜਾਂ ਉਸਦਾ ਵਿਸ਼ਾ ਵਸਤੂ (ਦੋ ਵਿਚੋਂ ਇਕ) **10 ਅੰਕ**
2. ਰੇਖਾ ਚਿਤਰ : ਸਾਰ, ਵਿਸ਼ਾ–ਵਸਤੂ, ਸ਼ਖ਼ਸੀਅਤ ਦੇ ਗੁਣ **10 ਅੰਕ**

3–4. 3–4 ਨੰਬਰ ਉੱਤੇ ਦਿੱਤੀ ਵਿਆਕਰਣ ਦੇ ਆਧਾਰ ਤੇ ਵਰਣਨਾਤਮਕ ਪ੍ਰਸ਼ਨ **10 ਅੰਕ**

5. ਪੈਰ੍ਹਾ ਰਚਨਾ : ਤਿੰਨ ਵਿਸ਼ਿਆਂ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਉਤੇ ਪੈਰ੍ਹਾ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇ । **5 ਅੰਕ**

6. ਪੈਰ੍ਹਾ ਦੇ ਕੇ ਉਸ ਬਾਰੇ ਪੰਜ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ **5 ਅੰਕ**

7. ਨੰਬਰ 7 ਵਿਚ ਅੱਠ ਅਖਾਣ ਅਤੇ ਅੱਠ ਮੁਹਾਵਰੇ ਪੁੱਛੇ ਜਾਣਗੇ, ਜਿਨ੍ਹਾਂ ਵਿਚੋਂ ਵਿਦਿਆਰਥੀ ਨੇ ਪੰਜ-ਪੰਜ ਨੂੰ ਵਾਕਾਂ ਵਿਚ ਵਰਤ ਕੇ ਅਰਥ ਸਪੱਸ਼ਟ ਕਰਨੇ ਹੋਣਗੇ

5+5=10 ਅੰਕ

SEMESTER–II

Punjabi (Elective)
ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)

ਸਮਾਂ ਤਿੰਨ ਘੰਟੇ **ਕੁਲ ਅੰਕ : 100**

1. **ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ** (1901-1995)
   (ਸੰਪਾ. ਡਾ. ਜਸਵਿੰਦਰ ਸਿੰਘ ਤੇ ਡਾ. ਮਾਨ ਸਿੰਘ ਢੀਂਡਸਾ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ)
   (ੳ) ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਗਲਪ : ਨਿਕਾਸ ਅਤੇ ਵਿਕਾਸ
   (ਅ) ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਇਕਾਂਗੀ : ਨਿਕਾਸ ਅਤੇ ਵਿਕਾਸ
   (ੲ) ਪੰਜਾਬੀ ਆਲੋਚਨਾ : ਨਿਕਾਸ ਅਤੇ ਵਿਕਾਸ
   (ਸ) ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਸਾਹਿਤ : ਸਿਧਾਂਤਕ-ਇਤਿਹਾਸਕ ਪਰਿਪੇਖ
   (ਹ) ਆਧੁਨਿਕ ਕਾਵਿ : ਨਿਕਾਸ ਅਤੇ ਵਿਕਾਸ
   (ਕ) ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਵਾਰਤਕ : ਨਿਕਾਸ ਅਤੇ ਵਿਕਾਸ
2. (ੳ) **ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ** ਅਤੇ **ਘਰੇਲੂ ਚਿੱਠੀ ਪੱਤਰ**
   (ਅ) ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ (ਔਚਿਤਯ, ਵਕ੍ਰੋਕਤੀ, ਸਾਧਾਰਨੀਕਰਨ, ਰਸ, ਅਲੰਕਾਰ, ਅਭਿਧਾ, ਲਕਸ਼ਣਾ, ਵਿਅੰਜਨਾ)
3. (ੳ) ਨਾਵਲ, ਕਹਾਣੀ, ਨਾਟਕ, ਇਕਾਂਗੀ
   (ਅ) ਨਜ਼ਮ, ਗੀਤ, ਗ਼ਜ਼ਲ, ਰੁਬਾਈ
4. (ੳ) ਵਿਹਾਰਕ ਭਾਸ਼ਾ, ਵਿਗਿਆਨ ਭਾਸ਼ਾ, ਕਾਵਿ ਭਾਸ਼ਾ
   (ਅ) ਅਰਥ ਵਿਗਿਆਨ : ਬਹੁ-ਅਰਥਕ ਸ਼ਬਦ, ਸਮਾਨਾਰਥਕ ਤੇ ਵਿਰੋਧਾਰਥਕ ਸ਼ਬਦ
   (ੲ) ਵਿਆਕਰਣ : ਵਿਸ਼ਰਾਮ ਚਿੰਨ੍ਹ, ਸ਼ਬਦ ਜੋੜ

ਅੰਕ-ਵੰਡ ਅਤੇ ਪੇਪਰ ਸੈਟਰ ਲਈ ਹਦਾਇਤਾਂ

1. **ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ** (1901-1995)
   (ੳ) ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਗਲਪ, ਨਾਟਕ ਤੇ ਇਕਾਂਗੀ ਅਤੇ ਆਲੋਚਨਾ ਦੇ ਵਿਕਾਸ ਬਾਰੇ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ (ਵਿਅਕਤੀਗਤ ਸਾਹਿਤਕਾਰ/ਆਲੋਚਕ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ ਨਹੀਂ ਪੁੱਛਿਆ ਜਾਵੇਗਾ)
   (ਅ) ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਆਰੰਭ : ਸਾਹਿਤਕ ਧਾਰਾਵਾਂ ਅਤੇ ਪ੍ਰਵਿਰਤੀਆਂ
   (ੲ) ਆਧੁਨਿਕ ਕਾਵਿ ਅਤੇ ਵਾਰਤਕ ਰੂਪਾਂ ਦੇ ਵਿਕਾਸ ਬਾਰੇ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। (ਵਿਅਕਤੀਗਤ ਸਾਹਿਤਕਾਰ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ ਨਹੀਂ ਪੁੱਛਿਆ ਜਾਵੇਗਾ।)
   (ਸ) ਉਪਰੋਕਤ ਉ, ਅ, ੲ, ਸ, ਹ ਅਤੇ ਕ ਵਿਚੋਂ ਚਾਰ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ, ਇਨ੍ਹਾਂ ਵਿਚੋਂ ਪਰੀਖਿਆਰਥੀਆਂ ਨੇ ਕੋਈ ਦੋ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਹੋਣਗੇ। **20x2=40 ਅੰਕ**
2. (ੳ) **ਘਰੇਲੂ ਅਤੇ ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ** (ਦੋ ਵਿਚੋਂ ਇਕ) **10 ਅੰਕ**
   (ਅ) **ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ** ਨਾਲ ਸੰਬੰਧਿਤ ਪੰਜ ਮੂਲ ਸੰਕਲਪ (ਚਾਰ ਵਿਚੋਂ ਦੋ) **10 ਅੰਕ**
3. (ੳ) ਪਰਿਭਾਸ਼ਾ ਤੇ ਲੱਛਣ ਉਦਾਹਰਣ ਸਹਿਤ (ਦੋ ਵਿਚੋਂ ਇਕ) **10 ਅੰਕ**
   (ਅ) ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਪ੍ਰਕਿਰਤੀ (ਦੋ ਵਿਚੋਂ ਇਕ) **05 ਅੰਕ**
4. (ੳ) ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਪ੍ਰਕਿਰਤੀ (ਦੋ ਵਿਚੋਂ ਇਕ) **05 ਅੰਕ**
   (ਅ) ਪੰਜ-ਪੰਜ ਅੰਕਾਂ ਦੇ ਦੋ ਵਿਸ਼ਲੇਸ਼ਣਾਤਮਕ ਪ੍ਰਸ਼ਨ **10 ਅੰਕ**
   (ੲ) ਪੰਜ-ਪੰਜ ਅੰਕਾਂ ਦੇ ਦੋ ਵਿਸ਼ਲੇਸ਼ਣਾਤਮਕ ਪ੍ਰਸ਼ਨ **10 ਅੰਕ**

SEMESTER–II

PUNJABI (FUNCTIONAL) (VOCATIONAL)
ਪੰਜਾਬੀ ਪ੍ਰਕਾਰਜੀ (ਫੰਕਸ਼ਨਲ)

ਕੁਲ ਅੰਕ : 100

ਪਰਚਾ ਏ : ਲਿਖਣ ਸ਼ੈਲੀਆਂ ਅੰਕ : 50

ਪਰਚਾ ਬੀ : ਰਸਮੀ ਲਿਖਤਾਂ ਅੰਕ : 50

ਥਿਊਰੀ

ਪਰਚਾ ਏ–ਲਿਖਣ ਸ਼ੈਲੀਆਂ

ਸਮਾਂ: ਦੋ ਘੰਟੇ ਅੰਕ : 50

ਪਾਠ-ਕ੍ਰਮ

1.	(ੳ)	ਸੰਚਾਰ, ਜਨਸੰਚਾਰ ਅਤੇ ਪ੍ਰਸਾਰਨ	
	(ਅ)	ਪ੍ਰਸਾਰਨ ਦੇ ਮੁੱਢਲੇ ਨਿਯਮ	5+5=10 ਅੰਕ
2.	(ੳ)	ਸੰਚਾਰ ਦਾ ਮਾਧਿਅਮ ਰੇਡੀਓ ਅਤੇ ਪੰਜਾਬੀ	
	(ਅ)	ਸੰਚਾਰ ਦਾ ਮਾਧਿਅਮ ਟੀ.ਵੀ. ਅਤੇ ਪੰਜਾਬੀ	5+5=10 ਅੰਕ
3.	(ੳ)	ਪ੍ਰਸਾਰਨ, ਸੰਚਾਰ ਅਤੇ ਸਮਾਜ	
	(ਅ)	ਭਾਰਤ ਵਿਚ ਟੀ.ਵੀ. ਨੈਟਵਰਕ	5+5=10 ਅੰਕ
4.	(ੳ)	ਸੰਚਾਰ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਪ੍ਰਕਾਰਜ	
	(ਅ)	ਵਿਗਿਆਪਨ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਉਦੇਸ਼ ਅਤੇ ਲਾਭ	5+5=10 ਅੰਕ
5.	(ੳ)	ਸਮਾਚਾਰ : ਪਰਿਭਾਸ਼ਾ, ਤੱਤ ਅਤੇ ਵਿਧੀਆਂ	
	(ਅ)	ਸਮਾਚਾਰ ਅਤੇ ਵਿਗਿਆਪਨ ਦੇ ਨਮੂਨੇ	5+5=10 ਅੰਕ

ਪ੍ਰੈਕਟੀਕਲ

ਪਰਚਾ ਬੀ– ਰਸਮੀ ਲਿਖਤਾਂ

ਸਮਾਂ : 1 ਘੰਟਾ ਅੰਕ : 50

ਪਾਠ-ਕ੍ਰਮ

1. **ਖੇਤਰੀ ਕਾਰਜ**
   - (ੳ) ਰੇਡੀਓ ਅਤੇ ਟੀ.ਵੀ. ਸਟੇਸ਼ਨ ਤੇ ਜਾ ਕੇ ਵਿਹਾਰਕ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਨੀ ਅਤੇ ਆਵਾਜ਼ ਦੀ ਸਿਖਲਾਈ ।
   - (ਅ) ਭਾਸ਼ਾ ਦੇ ਖੇਤਰੀ ਵਖਰੇਵੇਂ ਦੀ ਸਿਖਲਾਈ ।
2. ਵਿਹਾਰਕ ਜੀਵਨ ਵਿਚ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਵਰਤੋਂ
   (ਬੈਂਕ, ਡਾਕਖਾਨੇ, ਰੇਲਵੇ ਸਟੇਸ਼ਨ, ਬੱਸ ਅੱਡਾ, ਹਵਾਈ ਅੱਡੇ ਤੇ ਪੁੱਛ ਗਿੱਛ ਕਰਨ, ਸੀਟ ਬੁੱਕ ਕਰਵਾਉਣੀ, ਹੋਟਲ, ਰੈਸਟੋਰੈਂਟ ਵਿਚ ਖਾਣੇ ਲਈ ਆਦੇਸ਼ ਕਰਨਾ, ਕਮਰਾ ਬੁੱਕ ਕਰਵਾਉਣਾ)
3. ਸਮਾਜਕ ਸਭਿਆਚਾਰਕ ਸੰਦਰਭਾਂ ਵਿਚ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਵਰਤੋਂ
   (ਸ਼ੁੱਭ ਸੰਦੇਸ਼, ਸ਼ੋਕ ਸੰਦੇਸ਼, ਵਿਆਹ ਸਮਾਗਮਾਂ ਤੇ ਪ੍ਰਾਹੁਣਿਆਂ ਨੂੰ ਜੀ ਆਇਆਂ ਕਹਿਣਾ ਅਤੇ ਵਿਦਾ ਕਰਨਾ ਆਦਿ)
4. ਵਿਭਿੰਨ ਸਥਿਤੀਆਂ ਵਿਚ ਵਾਰਤਾਲਾਪ
5. ਜ਼ੁਬਾਨੀ ਬੋਲਣ ਦਾ ਅਭਿਆਸ

ਨੋਟ : ਪ੍ਰੈਕਟੀਕਲ ਵਿਚ ਵਿਦਿਆਰਥੀ ਦੀ ਪੰਜਾਬੀ ਉਚਾਰਨ ਦੀ ਸਮਰੱਥਾ ਦੀ ਮੌਖਿਕ ਪਰੀਖਿਆ ਲਈ ਜਾਵੇਗੀ।

SEMESTER–II

(Mudhli Punjabi)
ਮੁੱਢਲੀ ਪੰਜਾਬੀ
(In lieu of Compulsory Punjabi)

SEMESTER–II
ਪਾਠ–ਕ੍ਰਮ

ਸਮਾਂ : ਤਿੰਨ ਘੰਟੇ **ਕੁਲ ਅੰਕ : 50**

1. ਪੰਜਾਬੀ ਸ਼ਬਦ–ਬਣਤਰ
   ਸੰਯੁਕਤ ਅਤੇ ਮਿਸ਼ਰਤ ਸ਼ਬਦ
   ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ — 20 ਅੰਕ

2. ਪੰਜਾਬੀ ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ ਦੀ ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ:
   ਨਾਂਵ, ਪੜਨਾਂਵ ਵਿਸ਼ੇਸ਼ਣ, ਕਿਰਿਆ, ਕਿਰਿਆ ਵਿਸ਼ੇਸ਼ਣ — 15 ਅੰਕ

3. ਪੰਜਾਬੀ ਵਾਕ–ਬਣਤਰ
   ਸਾਧਾਰਨ ਵਾਕ : ਕਿਸਮਾਂ
   ਸੰਯੁਕਤ ਵਾਕ : ਕਿਸਮਾਂ
   ਮਿਸ਼ਰਤ ਵਾਕ : ਕਿਸਮਾਂ
   ਪੰਜਾਬੀ ਵਾਕਾਂ ਦੀ ਵਰਤੋਂ ਦੇ ਵਿਭਿੰਨ ਸਮਾਜਿਕ ਪ੍ਰਸੰਗ — 15 ਅੰਕ

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

1. ਪੰਜਾਬੀ ਸ਼ਬਦ ਬਣਤਰ: ਸੰਯੁਕਤ ਸ਼ਬਦ ; ਸਮਾਸੀ ਸ਼ਬਦ (ਜਿਵੇਂ ਲੋਕ ਸਭਾ) ; ਦੋਹਰੇ ਸ਼ਬਦ/ਦੁਹਰੁਕਤੀ (ਜਿਵੇਂ ਧੂੜ ਧਾੜ/ਭਰ ਭਰ), ਮਿਸ਼ਰਤ ਸ਼ਬਦਾਂ ਦੀ ਬਣਤਰ/ਸਿਰਜਨਾ; ਅਗੇਤਰਾਂ ਰਾਹੀਂ (ਜਿਵੇਂ ਉਪ–ਭਾਸ਼ਾ), ਪਿਛੇਤਰਾਂ ਰਾਹੀਂ (ਜਿਵੇਂ ਰੰਗਲਾ), ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ; ਪੜਨਾਵੀਂ ਰੂਪ, ਕਿਰਿਆ/ਸਹਾਇਕ ਕਿਰਿਆ ਦੇ ਰੂਪ ; ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ ; ਰੁੱਤਾਂ, ਮਹੀਨਿਆਂ, ਮੌਸਮਾਂ, ਗਿਣਤੀ ਨਾਲ ਸਬੰਧਿਤ।
2. ਦੂਸਰੇ ਯੂਨਿਟ ਵਿੱਚ ਸ਼ਬਦ–ਸ਼੍ਰੇਣੀਆਂ ਦੀ ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ ਨਾਲ ਸਬੰਧਿਤ 5–5 ਅੰਕਾਂ ਦੇ ਚਾਰ ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਅੰਕਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਇੱਕ–ਇੱਕ ਜਾਂ ਦੋ–ਦੋ ਅੰਕਾਂ ਦੇ ਛੋਟੇ ਪ੍ਰਸ਼ਨਾਂ ਵਿੱਚ ਕੀਤੀ ਜਾ ਸਕਦੀ ਹੈ।

3. ਪੰਜਾਬੀ ਵਾਕ-ਬਣਤਰ : ਕਰਤਾ ਕਰਮ ਕਿਰਿਆ; ਸਾਧਾਰਨ ਵਾਕ, ਬਿਆਨੀਆ, ਪ੍ਰਸ਼ਨਵਾਚਕ, ਆਗਿਆਵਾਚਕ; ਸੰਯੁਕਤ ਅਤੇ ਮਿਸ਼ਰਤ ਵਾਕਾਂ ਦੀਆਂ ਕਿਸਮਾਂ ; ਸੁਤੰਤਰ ਅਤੇ ਅਧੀਨ ਉਪਵਾਕ ; ਸਮਾਨ (ਤੇ/ਅਤੇ) ਅਤੇ ਅਧੀਨ (ਜੋ/ਕਿ) ਯੋਜਕਾਂ ਦੀ ਵਰਤੋਂ; ਪੰਜਾਬੀ ਵਾਕਾਂ ਦੀ ਵਰਤੋਂ ਦੇ ਵਿਭਿੰਨ ਸਮਾਜਕ/ਸਭਿਆਚਾਰਕ ਪ੍ਰਸੰਗ ; ਘਰ ਵਿਚ, ਬਾਜ਼ਾਰ ਵਿਚ, ਮੇਲੇ ਵਿਚ, ਸ਼ੌਪਿੰਗ ਮਾਲ/ਸਿਨਮੇ ਵਿਚ, ਵਿਆਹ ਵਿਚ, ਧਾਰਮਿਕ ਸਥਾਨਾਂ ਵਿਚ, ਦੋਸਤਾਂ ਨਾਲ ਆਦਿ।

ਅੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪਹਿਲੇ ਯੂਨਿਟ ਵਿੱਚੋਂ ਪੰਜਾਬੀ ਸ਼ਬਦ ਬਣਤਰ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ ਨਾਲ ਸਬੰਧਿਤ 5-5 ਅੰਕਾਂ ਦੇ ਤਿੰਨ ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਅੰਕਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਇਕ-ਇਕ ਜਾਂ ਦੋ-ਦੋ ਅੰਕਾਂ ਦੇ ਛੋਟੇ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕੀਤੀ ਜਾ ਸਕਦੀ ਹੈ।
2. ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਸ਼ਬਦਾਵਲੀ ਨਾਲ ਸਬੰਧਿਤ ਇਕ-ਇਕ ਅੰਕ ਦੇ ਪੰਜ (ਆਬਜੈਕਟਿਵ) ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
3. ਦੂਸਰੇ ਯੂਨਿਟ ਵਿੱਚ ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ ਦੀ ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ ਨਾਲ ਸੰਬੰਧਿਤ 5-5 ਅੰਕਾਂ ਦੇ ਚਾਰ ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਅੰਕਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਇੱਕ-ਇੱਕ ਦੋ-ਦੋ ਅੰਕਾਂ ਦੇ ਛੋਟੇ ਪ੍ਰਸ਼ਨਾਂ ਵਿੱਚ ਕੀਤੀ ਜਾ ਸਕਦੀ ਹੈ।
4. ਤੀਜੇ ਯੂਨਿਟ ਵਿੱਚ ਪੰਜਾਬੀ ਵਾਕ-ਬਣਤਰ ਨਾਲ ਸਬੰਧਿਤ 5-5 ਅੰਕਾਂ ਦੇ ਦੋ ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਅੰਕਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਇਕ-ਇਕ ਜਾਂ ਦੋ-ਦੋ ਅੰਕਾਂ ਦੇ ਛੋਟੇ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕੀਤੀ ਜਾ ਸਕਦੀ ਹੈ।
5. ਪੰਜਾਬੀ ਵਾਕਾਂ ਦੀ ਵਿਹਾਰਕ ਵਰਤੋਂ ਨਾਲ ਸਬੰਧਿਤ 5 ਅੰਕਾਂ ਦਾ ਇਕ ਪ੍ਰਸ਼ਨ ਪੁੱਛਿਆ ਜਾਵੇਗਾ ਜਿਸ ਵਿਚ ਵਿਦਿਆਰਥੀ ਨੂੰ ਕਿਸੇ ਸਮਾਜਿਕ/ਸਭਿਆਚਾਰਕ ਪ੍ਰਸੰਗ ਵਿਚ ਵਰਤੇ ਜਾਂਦੇ ਪੰਜ ਵਾਕ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ।
6. ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਭਾਸ਼ਾ ਸਰਲ ਅਤੇ ਸਪਸ਼ਟ ਰੱਖੀ ਜਾਵੇ।

B.A./B.Sc. (Semester System) (12+3 System of Education) *(Semester–II)*
(Faculty of Physical Education)

SEMESTER–II
PHYSICAL EDUCATION
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 60
Practical Marks: 40

Instructions for the Paper Setters:

Section A: The candidates are required to attempt all the six questions carrying two marks each. **6x2=12 Marks.**

Section B: The candidates are required to attempt seven out of twelve questions carrying four marks each. **7x4=28 Marks.**

Section C: The candidates are required to attempt two out of four questions carrying ten marks each. **10x2=20 Marks.**

PART–A

1. **Cell:** Structure and Functions.
2. **Skeletal System:** Types of bones, names of the various bones of the body, Various types of Joints.
3. **Muscular System:** Various types of muscles, structure of skeletal muscles.
4. **Digestive System:** It's organs and mechanism of digestion.
5. **Nutrition:** Elements of balanced diet, Functional Diet/Food

PART–B

1. Meaning and scope of health education. Hygiene problems of educational institutions and their remedial measures.
2. Personal hygiene; Care of eyes, teeth, ears, skin, hair and nail.
3. Air and water pollution and its remedial measures.
4. First aid in case of snake bite, drowning, electric shock, burns, fracture, dislocation, sprain and strain.
5. Effects of Alcohol and smoking on health.
6. Doping in sports.
7. Communicable Diseases: Mode of transmission, prevention and control of tuberculosis, hepatitis (A & B), Rabies and HIV/AIDS.

SEMESTER–II
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, Long Jump for Boys
  100M, Long Jump for Girls

- **Games (Boys & Girls)—— Fundamentals, Rules, Performance**
  Handball
  Kho–Kho

Suggested Readings:

1. John Raynor Anatomy and Physiology, New York, Harper & Row, 1983.
2. Rose and Wilson Foundations of Anatomy and Physiology, 1981, 5th ed.
3. Parror, J.W. anatomy and Physiology for Physical Education Teachers, Lend; Edward Arnold Healthful Living McGraw Hill, 1983.
4. Tadan D.K. et al,: Scientific basis of Physical Education and Sports, Friends Publication, New Delhi, 2001.
5. Singh Ajmer and Gill Jagtar: Essentials of Physical Education and Olympic Movement, Kalyani Publishers, Ludhiana, 2004.
6. Kang G.S.: Anatomy, Physiology and Health Education, Publication Bureau, Punjabi University, Patiala, 2000.
7. Kang G.S. and Deol N.S.: An Introduction to Health and Physical Education 21st Century, Patiala, 2008.
8. Dhillon G.K.: Health Education, Punjab Text Book.