SYLLABUS

FOR

B.A. / B.Sc.
(12+3 SYSTEM OF EDUCATION)
(SEMESTER–I)

Examinations: 2019–20

GURU NANAK DEV UNIVERSITY
AMRITSAR

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(ii) Subject to change in the syllabi at any time. Please visit the University website time to time.
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Combination of Subjects for B.A./B.Sc.

Compulsory Subjects: Two

1. English (Compulsory)
2. Punjabi (Compulsory) / Basic Punjabi (并发症的 Punjabi) / Punjab History & Culture

Elective Subjects: Three

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

Group Subjects:
1. English / Hindi / Punjabi / Sanskrit / Bangla / Urdu / Persian / Tamil / Assamese / French / Arabic / Russian / German.
3. History / Mathematics / Psychology / Ancient Indian History & Culture / Folk Arts and Culture/ Quantitative Techniques / Religious Studies.

Note:
1. The candidates shall be asked to offer both Hindi & Sanskrit as elective subjects from Group No. 1.
2. The candidates shall also be allowed to offer both Music (Vocal) & Music (Instrumental) as Elective Subjects from Group No. 6.
3. The combination of Home Science with Computer Science as Elective subject is allowed.
4. The blind candidates shall be allowed to offer any two elective subjects out of Music (Vocal), Music (Instrumental) and Tabla from Group No. 6.
5. The subject of Environmental Studies will be taught in 2nd year of all the undergraduate degree classes from the Session 2007–08. However, if a candidate fails to pass this paper in the 2nd year, two consecutive chances i.e. one supplementary and other along with 3rd year may be given to him/her. The marks obtained by the candidate in this paper will not be added to the total marks obtained, and the result will be entered as "Pass" in the DMC of the third year certificate if he/she obtains at least 35% marks in the paper.
6. The subject of “Drug Abuse: Problem, Management and Prevention” will be taught in 1st year (1st and 2nd Semester) of all the undergraduate degree classes from the Session 2017–18. However, if a candidate fails to pass this paper in the 1st year, two consecutive chances i.e. one supplementary and other along with 2nd year may be given to him/her. The marks obtained by the candidate in this paper will not be added to the total marks obtained, and the result will be entered as "Pass" in the DMC of the third year certificate if he/she obtains at least 35% marks in the paper.

7. The candidates shall also be allowed to offer both Music (Vocal) & Tabla as Elective Subjects from Group No. 6.

8. Change Name of Subject Commercial Art to Applied Arts vide Syndicate Para No. 91 Dated 16-06-2016.

VOCATIONAL SUBJECTS

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

GROUP–I


GROUP–II

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

GROUP–III


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

Note: 2. Tourism & Hotel Management should not be taken alongwith Tourism and Travel Management.
SEMESTER–I
POLITICAL SCIENCE

PRINCIPLES OF POLITICAL SCIENCE

Time: 3 Hours
Max. Marks: 100

Instructions for the Paper Setters:-

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

SECTION–A

2. Relationship of Political Science with Economics, History, Sociology and Psychology.

SECTION–B


SECTION–C

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

SECTION–D

1. Sovereignty: Definition, Attributes and Types of Sovereignty.
2. Theories of Sovereignty: Monistic and Pluralistic.

Recommended Books:-

SEMESTER–I

HISTORY

HISTORY OF INDIA UPTO C. 1000

Time: 3 Hours

Max. Marks: 100

Theory-6 periods/Week

Instructions for the Paper Setters:-

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

Section-A

1. **Sources:** Meaning of the term 'ancient', Literary sources Vedic literature, Epics and Puranans, Buddhist and Jain texts, Sangam literature; Accounts of Indians and foreigners; Archeological Sources; Coins, Inscriptions and Monuments.

2. **The Indus Civilization:** Origin; Harappa and Mohenjodaro; Political organization; Town-planning and architecture; Agriculture, technology; Trade contacts with the outside world; Religion; Script, Seals and Figurines, Causes of disintegration.

Section-B

3. **The Indo Aryans:** Original home; Geographical area known to Vedic texts; Social Institutions: Family, Varna and the Caste system, Religious ideas and rituals; Economy; Political Organization—Changes in the later Vedic period; Emergence of the republics and kingdoms; Growth of towns.

4. **Jainism and Buddhism:** Social and political conditions; Doctrines of Jainism and sectarian development; Teachings of Gautam Buddha; The Sangha organization; Spread of Buddhism; its decline, Legacy of Buddhism and Jainism.

Section-C

5. **The Age of the Mauryas:** Establishment of the Mauryan Empire; Expansion of the empire; the Kalinga War; Polity and administration; Contacts with neighbouring states; Ashoka's Dhamma; Decline of the Mauryan empire.

6. **The Kushanas:** Kanishka and his successors; Ghandhara Art; Literature. **The Gupta Age:** Establishment of the Gupta Empire; its expansion under Samundragupta and Chandragupta–II; Administration; Revenue system; Trade and Commerce; Art and architecture; The Huna invasions and the decline of the Gupta Empire.
7. **The Age of the Vardhanas:** Establishment of Vardhana kingdom; Harsha's campaigns and political relations; Sources of revenue; Patronage of religion, Literature and education.

8. **The Cholas:** Establishment of the Chola power; Extent of the Chola empire; Administration; Economy; Trade, Art and Architecture religion and Philosophy.

**The Rajputs:** Origins; Polity and administration; Social and Religious life; Literature and art.

**Suggested Reading**

3. Sharma, R.S., *India’s Ancient Past*, Oxford University Press, New Delhi, 2005
SEMESTER–I

DEFENCE AND STRATEGIC STUDIES

WAR AND ITS VARIOUS ASPECTS
(THEORY)

Time: 3 Hours

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

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

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

SECTION–A

1. War
   a) Nature, Concept and Definition
   b) Origin of War
   c) History of Warfare
      i) Animal Warfare
      ii) Primitive Warfare
      iii) Historical Warfare

2. Modern Warfare
   i) Meaning and Definition.
   ii) Features of Modern Warfare.

3. Principles of War
   a) Meaning and Importance.
   b) Historical Development and Application.

SECTION–B

1. War as an Instrument of Policy
2. Guerrilla Warfare
   i) Origin and Concept
   iii) Counter Guerrilla Warfare.
SECTION–C

1. Psychological Warfare
   a) Definition and Concept
   b) Functions.
   c) Limitations
2. Psychological Aspects of War
   a) Leadership
   b) Discipline
   c) Motivation
   d) Morale
   e) Fear and Panic.

SECTION–D

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

Books Recommended:
3. Clausewitz, C.V. (1873) : On War (translated by Col. J.J. Graham)
5. Encyclopedia Americana (Latest edition)
17. Wright, Quincy (1942) : A Study of War.
   Sanik Gyan de Mul Niyam(Punjabi translation published by Punjabi University Patiala)
SEMESTER–I

DEFENCE AND STRATEGIC STUDIES
(PRACTICAL)

Time: 3 Hrs.  
Marks: 20
  Written: 10
  Discussion: 05
  Record & Viva: 05

Instructions for the Examiners:

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

A. WRITTEN TEST  
   Marks: 10
   1. Map:
      a) Definition and Features
      b) Classification and its utility for Military
      c) Enlargement and reduction of Maps
   2. Conventional Signs: Military and Geographical
   3. GRID System: Four Figure and Six figure Map References.

B. TOPICS FOR DISCUSSION/PRESENTATION:  
   Marks: 05
   a. Principles of War
   b. Military Leadership
   c. Guerrilla Warfare

C. RECORD AND VIVA-VOCE  
   Marks: 05
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–I) (Session 2019-20)
(Faculty of Arts & Social Sciences)

SEMIESTER–I

JOURNALISM AND MASS COMMUNICATION (VOCATIONAL)
(THEORY)

Time: 3 Hours

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

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

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

SECTION–C

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

SECTION–D

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

(PRACTICAL)

Marks: 20

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

Books Recommended:-


Thoery & Practical Media
Communication and Management C.S. Rayudu Himalaya
SEMESTER–I

MASS COMMUNICATION & VIDEO PRODUCTION (VOCATIONAL)
INTRODUCTION TO COMMUNICATION

Time: 3 Hours

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

Instructions for the Paper Setters:-

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

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

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

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

(PRACTICAL)

Marks: 20

Training in communication skills, discussions & seminars.
Power Point Presentations in accordance with Syllabus.
Training in Communication Skills
Making a Power point presentation and presenting it (Time limit 5 Minutes)
Classroom Discussions and Seminars

Books Recommended:-

<table>
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<th>Name</th>
<th>Author</th>
<th>Publisher</th>
</tr>
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<tbody>
<tr>
<td>1. Mass Communication</td>
<td>Kewal J. Kumar</td>
<td>Jaico, Bombay, in India. 2004</td>
</tr>
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Note: Practical to be conducted by external examiner
SEMESTER–I
PUBLIC ADMINISTRATION
ADMINISTRATIVE THEORY

Time: 3 Hours
Max. Marks: 100

Instructions for the Paper Setters:-

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

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

SECTION–B

SECTION–C

SECTION–D
Administrative Behaviour– Leadership, Communication, Decision making. Control over Administration- Legislative, Executive, Judicial and citizens.

Suggested Readings:-
SEMESTER–I

SOCIOLOGY

FUNDAMENTALS OF SOCIOLOGY–I

Time: 3 Hours
Max. Marks: 100

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

SECTION–A
b) Sociology and Social Sciences: Psychology, Economics, Political Science and History.

SECTION–B
a) Basic Concepts: Society, Community, Institution and Association

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

SECTION–D

Recommended Readings:-

SEMESTER–I
WOMEN EMPOWERMENT
WOMEN AND SOCIETY: AN OVERVIEW

Time: 3 Hrs.  Max. Marks: 100

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

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

SECTION–B
Status of Women: Historical Perspective
2. Status of women in pre-independence period and Social Reforms before and after independence.

SECTION–C
Women, Society and Human Rights
2. Gender issue and Indian Constitution.

SECTION–D
Status of Women in Punjab
SEMESTER–I

Drug Abuse: Problem, Management and Prevention

PROBLEM OF DRUG ABUSE

Time: 3 Hours
Max. Marks: 50

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

SECTION–A

Meaning of Drug Abuse:

SECTION–B

Consequences of Drug Abuse for:
- Family: Violence.
- Society: Crime.
- Nation: Law and Order problem.

SECTION–C

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

SECTION–D

Psychiatric Management: Counselling, Behavioural and Cognitive therapy.
Social Management: Family, Group therapy and Environmental Intervention.

References:-
1. Ahuja, Ram (2003), Social Problems in India, Rawat Publication, Jaipur.
SEMESTER–I

PSYCHOLOGY

BASIC PSYCHOLOGICAL PROCESSES–I

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

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

SECTION -A
Nature: Psychology as a Science, Historical background of Psychology with brief Introduction to
Schools (Structuralism, Functionalism, Psychoanalysis, Behaviourism, Gestalt and Humanistic)
Methods: Introspection, Observation, Experiment, Case Study, Interview and Questionnaire

SECTION -B
Testing and Assessment: Nature and Uses of Psychological Tests, Characteristics of Good
Psychological Tests, Types of Psychological Tests (Verbal & Non–verbal Tests, Individual & Group
Tests, Speed & Power Tests, Paper & Pencil and Performance Tests, Essay & Objective Type Tests),
Ethical Issues in Psychological Testing

SECTION -C
Learning: Introduction to Learning, Nature and Characteristics of Learning, Types of Learning
(Verbal and Non-verbal), Theories of Learning (Thorndike, Pavlov, Skinner and Kohler)

SECTION -D
Intelligence: Concept and Nature, Intelligence Theories (Spearman, Thurstone, Gardener and
Sternberg), Concept of Emotional Intelligence, Nature and Nurture Issue in Intelligence

Statistics: Introduction to Parametric and Non-Parametric Statistics, Descriptive and Inferential
Statistics, Frequency Distributions, Graphical representation of Data, Meaning and Characteristics of
good Measure of Central Tendency, Measures of Central Tendency: Mean, Median, Mode with their
Merits and Demerits
References:
SEMESTER–I
PSYCHOLOGY

(PRACTICAL) Marks: 25

Instructions for the Practical Examination:

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

Five Practicals have to be performed out of the following:

1. Serial Positioning effect in Verbal Learning
2. Verbal/ Non verbal Test of Intelligence
3. Performance Test of Intelligence
4. Maze Learning
5. Comparison of Free & Serial Learning
6. Emotional Intelligence
SEMESTER–I

GEOGRAPHY

PHYSICAL GEOGRAPHY–I: GEOMORPHOLOGY
(THEORY)

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

Instructions for the Paper Setters:-

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

Note: Stencil/outline maps and coloured pencils are allowed

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

SECTION–A

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

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

SECTION–B

Movements of the Earth: Orogenic, epeirogenic movements
Landforms resulting from forces of compression and tension: folding and faulting
Earthquakes and Volcanoes (causes, types and distribution)

SECTION–C

Rocks: Their origin, classification and characteristics.
Major Landforms:Mountains, plateaus and plains in the world.
Geomorphic Agents:Geomorphic processes (weathering and erosion).

SECTION–D

Geomorphological Landscapes:Fluvial, glacial, aeolian, coastal, Karst.
Applied Geomorphology:Applications to transport and landuse.
Books Recommended:

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

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

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

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

Recommended Books:-
Essential Readings:-

Further Readings:-
SEMINAR–I

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

Time: 3 Hours Max. Marks: 50

Instructions for the Paper Setters:

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

SECTION–A

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

SECTION–B

3. Harappan Civilization: Town planning; socia, economic and religious life of the Indus Valley People.

SECTION–C

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

SECTION–D

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

Suggested Readings:

1. L. M Joshi (ed.), History and Culture of the Punjab, Art-I, Patiala, 1989 (3rd edition)
SEMESTER–I

ECONOMICS

MICRO ECONOMICS

Time: 3 Hours

Max. Marks: 100

Instructions for the Paper Setters:

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

SECTION–A


SECTION–B


SECTION–C


SECTION–D


Recommended Texts:
5. D. Salvatore: Microeconomics.
SEMESTER–I

QUANTITATIVE TECHNIQUES-I

Time: 3 Hours

Max. Marks: 100

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

SECTION–A

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

SECTION–B

Elements of Analytical Geometry: Straight line; Concepts of combination and permutation, Elements of set theory, union, intersection, difference, symmetric difference, complementation, Venn diagrams.

SECTION–C

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

SECTION–D

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

Books Recommended:-

1. Monga, G.S.: Mathematics and Statistics for Economics
SEMESTER–I

INDUSTRIAL ECONOMICS

INDUSTRIAL ECONOMICS-I

Time: 3 Hours  Max. Marks: 100

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

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

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

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

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

Recommended Texts:
4. Hardeen, J.B.: Economics of Corporate Economy.
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–I) (Session 2019-20) (Faculty of Economics & Business)

SEMESTER–I

AGRICULTURAL ECONOMICS & MARKETING

AGRICULTURAL ECONOMICS–I

Time: 3 Hours

Max. Marks: 100

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

SECTION–A

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

SECTION–B

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

SECTION–C

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

SECTION–D


Suggested Readings:-
SEMESTER–I
RURAL DEVELOPMENT–I

Time: 3 Hours Max. Marks: 100

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

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

SECTION–C

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

SECTION–D

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

Suggested Readings:-

5. Baldev Singh (tr.) Samaj Vigyan, Punjabi University, Patiala.
OFFICE MANAGEMENT AND SECRETARIAL PRACTICES COMPUTER
APPLICATIONS–I
(THEORY)

Time: 3 hours

Total Marks: 100
Theory: 60
Practical: 40

Instructions for the Paper Setters:-

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

SECTION–A

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

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

SECTION–D

Suggested Readings:-
3) Fundamentals of Information Technology, Alexis and Mathew.
SEMESTER–I
OFFICE MANAGEMENT AND SECRETARIAL PRACTICES COMPUTER APPLICATIONS–I
(PRACTICAL)
Marks: 40

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

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

Display Techniques:
2. Ensuring proper margins, line spacing.
3. Typing different types of heading including spaced heading.

Letter Typing:
1. Typing exercises of personal, official and business letters in different styles with proper display.
2. Typing of applications for jobs.
3. Addressing the envelopes.
SEMESTER–I
TRAVEL & TOURISM
FUNDAMENTALS OF TRAVEL AND TOURISM

Time: 3 Hrs. Max. Marks: 100

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

SECTION–A

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

Tourism Product and its Characteristics
Tourism through the ages.
Tourism as a product
Characteristics of tourism

SECTION–B

The Construct of Tourism
Notion of Travel in historical imagination
Types and forms of tourism
Motivations for tourism.

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

SECTION–C

Issues and Problems
Infrastructure and super–structure, Levels of Study.
Global; International concerns, problems and organizations–WTO, IATA and ICAO
Macro: National concerns and problems and oganizations–Ministry of Tourism and ITDC.
Meso: Local concerns and problems.
Micro: Enterprise level concerns and problems.
SECTION–D

Positive Effects of Tourism
Integrational
Nation building – appreciation of language, dress, food and Customs.
Information flows – travelogues.

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

Suggested Readings:-

SEMINSTER–I

TOURISM AND HOTEL MANAGEMENT

(VOCATIONAL)

Time: 3 Hours

Instructions for the Paper Setters:

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

SECTION–A

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

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

SECTION–B

House Keeping: Introduction, Layout of housekeeping department, Organisation of housekeeping department, Job description and qualities of housekeeping staff, Departments that housekeeping coordinates with, Rooms and floors – Practices and procedures. Briefing and scheduling of staff, Knowledge of rooms, Rules on a guest floor, Cleaning of rooms, Preparing a room report, Housekeeping control desk

SECTION–C

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

SECTION–D

Food and Beverage Service: History of Indian catering, Food and beverage outlets, Classification of catering operations, Restaurant organization, Service staff behaviour and standards. Table layout and table manners, Rules for waiting at table, Forms/types of catering establishments i.e Commercial (non residential & residential), Welfare (industrial/institutional), Transport (Air, Road, Rail, Sea); Origin of menu and menu planning objectives and types of menu

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

C. Training: One Month
During the summer vacation one month training is a must.
SEMESTER–I
TOURISM AND TRAVEL MANAGEMENT (VOCATIONAL)
TOURISM BUSINESS

Time: 3 Hours

Max. Marks: 100

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

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

SECTION–A

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

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

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

Suggested Readings:-

4. Kaul, R.H.: Dynamics of Tourism; A Terminology; Sterling Published (P) Ltd., New Delhi, 1996.
SEMESTER–I

TAX PROCEDURES & PRACTICES (VOCAATIONAL)
INCOME TAX LAW–I

Time: 3 Hours

Max Marks: 100

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

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

SECTION–B
Heads of Income- Income from Salaries, Income from House Property.

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

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

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

OBJECTIVES:
This course is intended to impart knowledge and develop skill among the participants in the field of marketing communication, so as to equip them to man junior and lower–middle level positions in the fast–growing and challenging business areas of advertising, sales promotion, selling and sales management and Public relations. The course shall consist of six papers, two each of the three years of under graduate programme in the Indian Universities and other institutions. The six papers are:
1. Marketing Communication.
2. Advertising–I
3. Advertising–II
4. Personal Selling and Salesmanship.
6. Sales Promotion and Public relations.

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

COURSE CONTENTS:

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

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

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

SECTION–D
Integrated Communication in Marketing.

Suggested Readings:-
SEMMESTER–I

COMMERCE

COMMERCE THEORY AND FUNCTIONAL MANAGEMENT

Time: 3 Hours
Max. Marks: 100

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

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

SECTION–A
A critical evaluation of various definitions of Commerce, Commerce Art or Science or both, Commerce as a Profession, Relationship and Difference between Economics, Commerce and Management,
Functions of Commerce: Traditional and Modern.
Management: Definition, purpose and significance. Management Art or Science for both.

SECTION–B
Management as a Process: Planning, Organising, Staffing, Direction and Control and their meaning, Features and principles.
Contributions to Management thought with special reference to Taylor, Fayel, Elton Mayo.
Personnel Management: Meaning and significance, Managerial and operative Functions–Recruitment, Selection and training. Methods of wage payment, absenteism and labour turnover, Job evaluation and merit rating, Trade Unionism, worker’s participation in management.

SECTION–C
Marketing Management: Concept of Marketing, functions of marketing research–meaning and, Techniques, advertising and salesmanship.

SECTION–D
Production: Functions, production, planning and control, purchasing and storekeeping, inventory Control, quality control.
Finance: Meaning and importance, sources of finance.

Suggested Readings:

B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–I) (Session 2019-20)  
(Faculty of Sciences)

SEMESTER–I

MATHEMATICS  
PAPER–I: ALGEBRA

Time: 3 Hours  
Marks: 50

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

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

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

SECTION–C

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

Books Recommended:-
SEMESTER–I

MATHEMATICS

PAPER–II: CALCULUS AND TRIGONOMETRY

Time: 3 Hours          Marks: 50

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

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

SECTION–C

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

SECTION–D

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

Books Recommended:-

SEMMESTER–I

STATISTICS

PAPER–I: STATISTICAL METHODS–I

Time: 3 Hours
Marks: 35

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

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

SECTION–C

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

SECTION–D


Books Recommended:-

Books Suggested for Supplementary Reading:-
SEMESTER–I
STATISTICS

PAPER–II: PROBABILITY

Time: 3 Hours  Marks: 35

Instructions for the Paper Setters:-

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

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

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

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

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

Books Recommended:-

Books Suggested for Supplementary Reading:-
SEMESTER–I

STATISTICS


Time: 2 Hours  
Marks: 30

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

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

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

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

CHEMISTRY (INORGANIC CHEMISTRY–I)
(THEORY)

Time: 3 Hrs.  
Marks: 35  
45 Hrs (3 Hrs/week)

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

SECTION–A
I. Atomic Structure  
10 Hrs.

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

SECTION–B
II. Periodic Properties  
10 Hrs.

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

SECTION–C
III. Chemical Bonding  
12 Hrs

Covalent Bond –Valence bond theory and its limitations, directional characteristics of covalent bond, various types of hybridization and shapes of simple inorganic molecules and ions. BeF$_2$, BF$_3$, CH$_4$, PF$_5$, SF$_6$, IF$_7$, SnCl$_2$, XeF$_4$, BF$_4$, SnCl$_6$. Valence shell electron pair repulsion (VSEPR) theory to NH$_3$, H$_2$O+, SF$_4$, CIF$_3$, ICl$_2$ and H$_2$O. MO theory, homonuclear (elements and ions of 1st and 2nd row), and heteronuclear (BO, CN–, CO, NO+, CO+, CN), diatomic molecules, multicenter bonding in electron deficient molecule (Boranes). Percentage ionic character from dipole moment and electronegativity difference.
IV. Ionic Solids 13Hrs

Concept of close packing, Ionic structures, (NaCl type, Zinc blende, Wurtzite, CaF$_2$ and antifluorite, radius ratio rule and coordination number, limitation of radius ratio rule, lattice defects, semiconductors, lattice energy and Born–Haber cycle, solvation energy and solubility of ionic solids, polarizing power and polarisability of ions, Fajan’s rule. Metallic bond – free electron, valence bond and band theories.

Weak Interactions – Hydrogen bonding, Vander Waals forces.

Books Suggested:-
11. Inorganic Chemistry, A.G. Sharpe, ELBS.
SEMESTER–I

CHEMISTRY (ORGANIC CHEMISTRY–I)
(THEORY)

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

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

SECTION–A

I. Structure and Bonding  (5 Hrs.)
Hybridization, bond lengths and bond angles, bond energy, localized and delocalized chemical bond, Vander Waals interactions, resonance, hyperconjugation, hydrogen bonding and Inductive and electrometric effects.

II. Mechanism of Organic Reactions  (6 Hrs.)
Curved arrow notation, drawing electron movements with arrows, half–headed and double–headed arrows, homolytic and heterolytic bond breaking. Types of reagents – electrophiles and nucleophiles.
Reactive intermediates –Carbocations, carbanions, free radicals, carbenes, arenes and nitrenes (with examples). Assigning formal charges on intermediates and other ionic species.

SECTION–B

III. Alkanes  (4 Hrs.)
Isomerism in alkanes, sources, methods of formation (with special reference to Wurtz reaction, Kolbe reaction, Corey–House reaction and decarboxylation of carboxylic acids), physical properties and chemical reactions of alkanes. Mechanism of free radical halogenation of alkanes: orientation, reactivity and selectivity.

IV. Alkenes and Alkynes  (8 Hrs.)
Nomenclature of alkenes, methods of formation, mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halides, regioselectivity in alcohol dehydration. The Saytzeff rule, Hofmann elimination, physical properties and relative stabilities of alkenes. Chemical reactions of alkenes–mechanisms involved in hydrogenation, electrophilic and free radical additions, Markownikoff’s rule, hydroboration–oxidation, oxymercuration reduction. Epoxidation, ozonolysis, hydration, hydroxylation and oxidation with \( \text{KMnO}_4 \).
Substitution at the allylic and vinylic positions of alkenes.
V. Alkyl Halides
(7 Hrs.)
Nomenclature and classes of alkyl halides, chemical reactions. Mechanisms of nucleophilic substitution reaction of alkyl halides, SN2 and SN1 reactions with energy profile diagrams. Nuclear and side chain reactions.

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

SECTION–D

VII. Arenes and Aromaticity
(10 Hrs.)
Aromaticity: the Huckel’s rule, aromatic ions.

Books suggested:-
SEMESTER–I

CHEMISTRY

(PRACTICAL)

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


Organic Chemistry Laboratory Techniques

Determination of Melting Point
Naphthalene 80–82°C Cinnamic acid 132.5–133°C
Benzoic acid 121.5–122.0°C Salicylic acid 157.5–158.0°C
Urea 132.5–133°C Acetanilide 113.5–114.0°C
Succinic Acid 184.5–185°C m–dinitro benzene 90°C
P–dichlorobenzene 52°C Aspirin 135°C

Determination of Boiling Point
Ethanol 78°C Cyclo Hexane 81.4°C,
Benzene–80°C Toluene 110°C

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

Books Suggested:-
1. Vogel’s Qualitative Inorganic Analysis, revised, Svehla, Orient Longman.
SEMESTER–I

PHYSICS

PAPER–A: MECHANICS
(THEORY)

Time: 3 Hours  
Marks: 35

Total Teaching Hrs: 45(3Hrs./week)
Pass Marks: 35%

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

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

11 Lectures

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

11 Lectures

SECTION–C

11 Lectures

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

12 Lectures

Books Suggested:
SEASON–I

PHYSICS

PAPER–B: ELECTRICITY AND MAGNETISM
(THEORY)

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

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

SECTION –A

12 Lectures

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

11 Lectures

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

11 Lectures

SECTION –D

11 Lectures
Books Suggested:-

3. Introduction to Classical Electrodynamics: David Griffith.
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–I) (Session 2019-20)
(Faculty of Sciences)

SEMESTER–I

PHYSICS

(PRACTICAL)

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

I. The distribution of marks is as follows: Marks: 30

   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 session of 3 hours duration. The paper will have one session.

   Paper will consist of 8 experiments out of which an examinee will mark 6 experiments and
   one of these is to be allotted by the external examiner.

III. Number of candidates in a group for practical examination should not exceed 12.

IV. In a single group no experiment be allotted to more than three examinee in any group.

1. To study the dependence of moment of inertia on distribution of mass (by noting time periods
   of oscillations using objects of various geometrical shapes but of same mass).
2. To establish relationship between torque and angular acceleration using fly wheel.
3. To find the moment of inertia of a flywheel.
4. Study of bending of beams and determination of Young’s modulus.
5. Determination of Poisson’s ratio for rubber.
6. To determine energy transfer, coefficient of restitution and verify laws of conservation of
   linear momentum and kinetic energy in elastic collisions using one dimensional collisions of
   hanging spheres.
7. To verify the laws of vibrating string by Melde’s experiment.
8. Measure time period as a function of distance of centre of suspension (oscillation) from
   centre of mass, plot relevant graphs, determine radius of gyration and acceleration due to
   gravity.
9. Find the value of ‘g’ by Kater’s pendulum.
10. Measure time period of oscillation of a Maxwell needle and determine modulus of rigidity
    of the material of a given wire.
11. To measure logarithmic decrement, coefficient of damping, relaxation time, and quality
    factor of a damped simple pendulum.
SEMINER–I

HOME SCIENCE
(THEORY)

FAMILY RESOURCE MANAGEMENT & HYGIENE

Time: 3 Hours
6 Periods/week                                          Max. Marks: 100

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

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

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

SECTION–C
8. Hygiene
   a) Definition of hygiene.
   b) Definition of infection, sources, carrier and control.
   c) Definition and types of Immunity

9. Causes and Spread of following Diseases
   a) Caused by insects–malaria, dengue.
   b) Conveyed by ingestion–Enteric fever, Jaundice, Dysentery, and Diarrhea.
   c) Spread by droplet infection, chicken pox, measles, and mumps tuberculosis.
   d) Sexually transmitted diseases–AIDS.

SECTION–D
10. Food Hygiene
    a) Food Hygiene – Definition
    b) Hygiene during preparation, service and storage of food.
    c) Food poisoning, causes and prevention.
    d) Purification and storage of Water for home.
<table>
<thead>
<tr>
<th>Sr.no.</th>
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<tbody>
<tr>
<td>1.</td>
<td>Home Furnishing</td>
<td>Rutt, Anna Hong</td>
</tr>
<tr>
<td>2.</td>
<td>Family Resource Management &amp; Health Science</td>
<td>Dr. Rajwinder K. Randhawa</td>
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<td>4.</td>
<td>Hygiene and Public Health</td>
<td>Bedi, Yashpal</td>
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<td>5.</td>
<td>Textbook of Health Education</td>
<td>Ramachandran, I.</td>
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<td>6.</td>
<td>Textbook of Home Science</td>
<td>Neelam Garewal</td>
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</table>
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B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–I) (Session 2019-20)
(Faculty of Sciences)

SEMESTER–I

HOME SCIENCE

FAMILY RESOURCE MANAGEMENT & HYGIENE
(PRACTICAL)

Time: 3 Hours
4 Periods/week

Marks: 40

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

Colour Wheel.

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

Floor decoration of Alpana & Rangoli for different Occasions.

Instruction for the practical examiner:-

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

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

Note: One Practical group will consist of 15 students.
SEMESTER–I

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)
PAPER–A: BASIC NUTRITION

(THEORY) Time-3 hrs Marks: 40
Pds-4/Week

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

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

COURSE CONTENT

SECTION–A
1. Introduction to nutrition- Food as a sources of nutrients, definition of Nutrition, nutrients, adequate, optimum and malnutrition.
2. Classification of food.
3. Methods of cooking: Boiling, Steaming, frying, baking, roasting, Braising and microwave cooking.

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

SECTION–C
7. Fats and Oils- Composition, Classification, Saturated, Unsaturated fatty acids, food sources, Functions, requirement and deficiencies.
8. Energy-
   (i) Unit of energy, food as a source of energy, energy value of food, body need of energy.
   (ii) Factors affecting energy require
       a) Determination of energy value of foods using calorimeter
       b) Specific Dynamic action
       c) Basal Metabolism
       d) Determination of basal metabolism
       e) Factors affecting the BMR
9. Vitamin- Classification, unit of measurements sources, requirements functions and deficiency excess & Toxicity of following vitamins.
   (a) Fat Soluble vitamins A, D, E and K

10. Mineral- Functions, Sources, Bio-availability requirement and deficiency of following Minerals:
    a) Calcium, iron, iodine, fluorine, Sodium, Potassium, Phosphorus, and Magnesium’.

11. Importance of water in Nutrition.

Books:

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<tr>
<td>1</td>
<td>Food Science and Nutrition</td>
<td>2018</td>
<td>Sunetra Rodey</td>
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SEMESTER–I

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

BASIC NUTRITION (PRACTICAL)

Pds- 3pds/ week
(THERE WILL BE NO PRACTICAL EXAM)

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

References:

SEMESTER–I

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

PAPER–B: NUTRITIONAL BIOCHEMISTRY (THEORY)

Time-3 hrs  
Marks: 40

Pds-4/Week

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

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

COURSE CONTENT

SECTION–A

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

SECTION–B

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

SECTION–C

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

SECTION–D

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

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

PAPER–B: NUTRITIONAL BIOCHEMISTRY (PRACTICAL)

Time-3 Hours
3 pds/Week

Marks: 20

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

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

References:

SEMMESTER–I  
COSMETOLOGY (VOCATIONAL)  
(THEORY)

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

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

OBJECTIVES  
To create awareness about the cosmetology  
To impart knowledge of skin and personal grooming

SECTION–A

Cosmetology
• Introduction
• Aims and Importance

SECTION–B

Skin:
• What is Skin?  
• Structure of skin  
• Functions of skin  
• Types of skin  
• Common skin problems

SECTION–C

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

SECTION–D

Massage:
• Theory of massage  
• Benefits of massage  
• Basic knowledge of facial muscles

Reference Books:
  1. The complete book of beauty by Sunnydale, halena  
  3. Text book of Cosmetics by Vimla Devi M  
  4. Instant skin care, how to have health hassle free skin by Nortan Sally  
  5. Massage made easy by Mc Gilvery Carole
SEMESTER–I

COSMETOLOGY (VOCATIONAL)

(PRACTICAL)

Time: 4hrs.                  Marks: 60
Periods/Week – 6

Note: Paper will be set on the spot by the examiner.

Project file will be evaluated by External Examiner which carries – 10 marks.

1. **Massage:**
   a) Methods of massage
   b) Massage Techniques

2. **Facial Treatments:**
   a) Knowledge of skin analysis
   b) Facial Massage

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

FASHION DESIGNING AND GARMENT CONSTRUCTION
(VOCATIONAL)

FASHION DESIGNING–1
(THEORY)

Time: 3 Hrs.                                                                                                        Max Marks: 100
Period: 3/Week                                                                                                        Theory Marks: 40
                                                                                                                        Practical Marks: 60

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

3. Factors Affecting Fashion Cycle.

SECTION–C

5. Theories of Fashion Adoption.

SECTION–D

6. Components of Fashion- Line, Color, Texture

Books:

<table>
<thead>
<tr>
<th>Sr.no.</th>
<th>Book title</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Legends in consumer behaviour</td>
<td>Jean Charles</td>
</tr>
<tr>
<td>2.</td>
<td>Dictionary of Fashion</td>
<td>Calaribetta, E.M.</td>
</tr>
<tr>
<td>3.</td>
<td>Fashion studies</td>
<td>Heike Jenss</td>
</tr>
<tr>
<td>4.</td>
<td>Fashion marketing</td>
<td>Hines, Tony</td>
</tr>
<tr>
<td>5.</td>
<td>History of fashion</td>
<td>Gersilne, D.</td>
</tr>
</tbody>
</table>
SEMESTER–I

FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)

SCALE DRAWING AND GARMENT CONSTRUCTION
(PRACTICAL)

Time: 4 Hrs.  Marks: 60
Period: 2 x 6/Week

Instructions for the paper setters:

1. Construction of any one sample from section A.  Marks: 25
2. Two questions from Part B.  Marks: 25
3. File Work.  Marks: 10

SECTION–A

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

SECTION–B

4. 1 Basic block figure
    2. Distribution of weight
    3. Flesh figure
    4. Formulae of hand and feet
    5. Formulae of face
    6. Legs formulae
    7. Necklines and Collars
    8. Sleeves and Cuffs
    9. Skirts- Pleats, gathers, frills, fringes
EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL) (THEORY)

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

Instructions for the Paper Setters:-

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

SECTION–A
1. Definition & Importance of Child Development, Stages of Child Development.
3. Factors affecting Development.

SECTION–B

SECTION–C
7. Care of Infant: Breast feeding, Bottle feeding, Weaning

SECTION–D
9. Immunization Schedule.
SEASON—I

FOOD SCIENCE AND QUALITY CONTROL (VOCATIONAL)

FSQC (I): FOOD CHEMISTRY AND NUTRITION (THEORY)

Time: 3 Hours
Max. Marks: 75

Instructions for the Paper Setters:-

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

SECTION—A

1. Introduction to nutrition—food as a source of nutrients, function of foods, definition of nutrition, nutrients, adequate, optimum and good nutrition, malnutrition.
2. Inter—relationship between nutrition and health—parameters of good health.
3. Food guide—basic five food groups – Importance, uses.
4. Food Metabolism – digestion, absorption, transport, utilization of nutrients in the body.
5. Water—function, sources, requirement, water balance, effect of deficiency on health.
6. Carbohydrate—composition, classification, food sources, storage in body, reaction, structure, functions of mono, oligo and poly saccharides in foods.

SECTION—B

9. Energy — unit of energy, food as a source of energy, calorific value of food need for energy, Basic metabolic role, utilization of fat energy requirement.
11. Vitamins: classification, sources, functions and deficiency, diseases of following vitamins
   a) Fat soluble vitamins – Vitamin. A, D, E and K
   b) Water soluble vitamins: vitamins C and B–Complex
12. Recommended dietary Requirements: Nutrient requirement for adult men and women as per ICMR.
14. Pigments sources, chemical and physical properties, effect of processing and storage on pigments.
SECTION–C
16. Cereals and Pulses: Cereals and millets, breakfast cereals, cereal products, fast foods structure, processing, use in variety of preparations, selection, variety storage, nutritional aspects and cost. Pulses & legumes – Production (in brief) selection and variety, storage, processing, use in variety of preparations, nutritional aspects and cost.
17. Milk and Milk Products: Composition, classification, quality processing, storage, spoilage, uses, cost, nutritional aspects of milk curds, butter milk, paneer, khoa, cheese, ice–cream, kulfi and various kinds of processed milk.

SECTION–D
18. Egg: Production, grade, quality, selection storage, spoilage, uses, cost and nutritional aspects.
19. Fish, Poultry and Meat: Selection, purchase, storage, uses, cost and nutritional aspects, spoilage of fish, poultry & meat.

References:–
5. Food Chemistry, ed. Or Fenema 2nd ed.
6. Food Chemistry, Mian Hoagland Meger
7. Food Chemistry He Mann

Book Recommended:–
6. Food Chemistry by Mian Hoagland Meger
7. Food Chemistry by He Mann
SEMESTER–I

FSQC–2: FOOD CHEMISTRY AND NUTRITION
(PRACTICAL)

Max. Marks: 25

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

List of Practicals
1. Determination of acid value.
2. Determination of iodine value.
3. Determination of saponification value.
4. Quantitative value (testing of proteins, lipids and carbohydrates in different foods.
5. Estimation of Vitamin C.
7. Chlorination of water.
8. Determination of food enzymes.
9. Determination of fibers content in food.
10. Salt determination in food products.
11. Estimation of Volatile and nonvolatile acids in vinegar.
13. Cream separation, neutralization and ripening of milk.
15. Preparation of Ghee.
SEMMESTER–I

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

Time: 3 Hrs.

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

Work Load:
Theory - 3 periods per week.
Practical - 9 periods per week.
Total - 12 periods per week.

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

SECTION–A

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

SECTION–B

What is composition?
Principles of Art: Perspective, Proportion, Rhythm, Balance, Harmony, Dominance

SECTION–C

Classical Mural Tradition
Ajanta Paintings: Its technique, Subject Matter, Characteristics, its Paintings
   (i) Boddhisatva Padampani
   (ii) Mother and Child before Buddha
   (iii) Chhadanta Jataka
   (iv) Dying Princess
   (v) Dream of Maya

SECTION–D

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

FINE ARTS

PAPER–B: STILL LIFE (DRAWING)  
(PRACTICAL)

Time: 5 Hrs  
Marks: 25

Work Load:
Theory - 3 periods per week.
Practical - 9 periods per week.
Total - 12 periods per week.

Objects to Study: Proportion, Volume, Texture, Study of Light and Shade.
Number of Objects: Three objects excluding drapery.
Medium: Oil/Water/Pastel Colours
Size: ½ Imperial
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–I) (Session 2019-20)
(Faculty of Visual Arts & Performing Arts)

SEMESTER–I

FINE ARTS

PAPER–C: LETTER WRITING / COLLAGE MAKING
(PRACTICAL)

Time: 5 Hrs  Marks: 25

Work Load:

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

Study of different styles of alphabets

Creative writing of different styles

Language: Any

Medium: Poster Colours/Indian Ink

Size: ½ Imperial

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

Candidates will submit:-

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

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

GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)
(THEORY)

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

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

SECTION–A

Brief history of Jewellery of
(i) Indus Valley civilization,
(ii) Shunga Period.

SECTION–B

Brief history of Jewellery of
(i) Gupta Period.
(ii) Mughal period.

SECTION–C

Introduction of stone setting and types of stone setting in detail
(i) Pave setting
(ii) Prong setting
(iii) Channel setting
(iv) Bezel setting
(v) Pressure setting
(vi) Invisible setting

Introduction of different types of cuts in gem stones and their importance
(i) Cabochon cut
(ii) Step cut
(iii) Emerald cut
(iv) Round brilliant cut
(v) Faceted beads
(vi) Princess cut
(vii) Mixed cut

SECTION–D

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

Suggested Books:-
1. Traditional jewellery of India by Oppi Untracht, Thames and Hudson publication
2. Indian jewellery dance of the peacock by Usha R Bala Krishnan
3. Jewellery concept of technology by Oppi Untracht
SEMESTER–I

GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)

DESIGN
(PRACTICAL)

Time: 5 Hours  Marks: 50

Instruction for the paper setters:
The Paper will be set by the external examiner on the spot out of prescribed syllabus.

1. Exercises on
   i) Pencil Control
   ii) Drawing & Shading in 2 Dimensional and 3 Dimensional objects
   iii) Motif development for jewellery design

2. Development of Plain and Simple Design for necklaces, pendants, earrings

3. Collecting and recognizing forms for designing and using them in their designs
   (Medium–Watercolour pencils)

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

STILL PHOTOGRAPHY & AUDIO PRODUCTION (VOCATIONAL)
(THEORY)

Time: 3 Hours          Max. Marks: 50

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

SECTION–A

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

SECTION–B

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

SECTION–C


SECTION–D

Camera & It’s types:  What is Camera & types of Camera.
Tools of dark rooms:  (B & W) accessories.

Suggested Readings:-

<table>
<thead>
<tr>
<th>Sr. No.</th>
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<tbody>
<tr>
<td>1.</td>
<td>Hand Book of Journalism &amp; Mass Communication</td>
<td>Mr. Vir Bala Aggarwal</td>
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<tr>
<td>2.</td>
<td>Basic Photography</td>
<td>John Hedgecoe</td>
</tr>
<tr>
<td>3.</td>
<td>35 mm Photography</td>
<td>Bavister</td>
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</tbody>
</table>
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–I) (Session 2019-20) (Faculty of Visual Arts & Performing Arts)

SEMESTER–I

STILL PHOTOGRAPHY & AUDIO PRODUCTION (VOCATIONAL)

BASIC PHOTOGRAPHY
(PRACTICAL)

Time: 6 Hours

Marks: 50

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

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

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

Suggested Readings:

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</tr>
</tbody>
</table>
SEMESTER–I

APPLIED ARTS

ART APPRECIATION AND ADVERTISING (THEORY)

Time: 3 Hours

Max. Marks: 50

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

SECTION–A

Colour: What do you mean by term colour and Importance of colour in day to day life.
Types of Colour: Hue, Tint, Shade or Tone, Value, Saturation.
Colours in Design: Importance and effect of colour in Design.

SECTION–B

What is Design: Definition and Meaning of Design, Elements of Design (Line, Form, Shape, Color, Rhythm, Texture)
2D and 3D Design: Introduction, Meaning and difference between 2D and 3D design.

SECTION–C

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

SECTION–D

Meaning of Advertising: Introduction of advertising in detail with its meaning and purpose of advertising in brief.
Role of an Artist in Advertising: Detailed introduction of artist’s role in advertising and his functions performed.

Suggested Readings:-

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2000 Color Palette Swatches</td>
<td>Graham Davis</td>
</tr>
<tr>
<td>2.</td>
<td>Logo Cafe</td>
<td>Page 1 Publisher</td>
</tr>
</tbody>
</table>
SEMMESTER–I

APPLIED ARTS

GREETING CARDS AND LOGO
(PRACTICAL)

Time: 6 Hours
Marks: 50
Size: ¼ imperial
Medium: Poster Color/ Ink

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

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

Course Contents:-
Greeting Cards: Greeting Cards, Greeting Card Envelopes, Gift Paper Designing, Gift Name
Card Designing and Bookmark Designing.
Logo: Logos, Monograms, Visiting Cards, Letterheads and Envelopes.

Suggested Readings:-

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Logo Café</td>
<td>Page 1 Publisher</td>
</tr>
<tr>
<td>2.</td>
<td>Logo Design</td>
<td>ED Julius, Viedemall Taschan Publisher</td>
</tr>
<tr>
<td>3.</td>
<td>Letter Head &amp; Logo Design</td>
<td>Design Army, Rock Pot Publisher</td>
</tr>
</tbody>
</table>
SEMESTER–I

SCULPTURE
(THEORY)

Time: 3 Hours

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

Instructions for the Paper Setters:-

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

SECTION–A

What is Sculpture? Basic terms related to Sculpture
Meaning of Relief and Round Sculpture

SECTION–B

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

SECTION–C

Stone & Wood Carving: Types of stones, techniques and tools
Process of Plaster mould and Casting,

SECTION–D

Composition
SEMESTER-I

SCULPTURE
(PRACTICAL)

Time: 6 Hours

Marks: 50

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

MUSIC (VOCAL)

(THEORY)

Total Marks: 100
Theory: 3 Hours Theory Marks: 50
Practical: 20 Min. for each student Practical Marks: 50

Teaching Work load:
Theory: 3 Periods per week Practical: 9 Periods per week

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

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

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

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

SECTION–D
8. Definition and explanation of the following terms in the context of Gurmat Sangeet: Raga, Mohalla, Rahao, Rababi.
SEMESTER–I

MUSIC (VOCAL)

(PRACTICAL)

Time: 20 Minutes                              Marks: 50

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

Books Recommended:-

1. Rag Parichya Part – I to IV by Shri Harish Chnder Srivastava.
2. Sangeet Shastra Darpan Part – II (Punjabi) published by Punjabi University, Patiala.
4. Sangeet Shastra Darpan Shanti Govardhan.
7. Sangeet Nibandhavli, Dr. Gurnam Singh, published by Punjabi University, Patiala.
8. Sikh Dharam Ate Bhakti Sangeet, Dr. Jitender Kaur.
SEMESTER–I

MUSIC (INSTRUMENTAL)
(THEORY)

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

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

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

3. Define Raag, Explain its Rules and Jatis.

SECTION–C

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

SECTION–D

9. Definition and explanation of the following terms in the context of Gurmat Sangeet: Raga, Mohalla, Rahao, Rababi.

Books Recommended:-

1. Raag Parichey (Part 1,2) by H.C.Shrivastava.
2. Sangeet Shastra Darpan (Part–1,2) by Shanti Gowardhan.
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–I

MUSIC (INSTRUMENTAL)

(PRACTICAL)

Time: 20 Minutes  Marks: 50

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

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

Time: 3 Hrs.

Teaching 3 periods per week

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

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

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

SECTION–C
6. Knowledge of the Folk Dances of Punjab with their style, costume and music.
7. Notation of Teen Taal with its:
   (a) Tatkar in Thaah, Dugun and Chaugun Layakaries.
   (b) Thaat – 1
   (c) Tehai – 1
   (d) Amad – 1
   (e) Salami – 1
   (f) Tora – 2
   (g) Paran – 1
   (h) Chakardar Paran – 1
   (i) Kavit – 1

SECTION–D
8. Description of the following talas with the notation of their Thekas in Thaah, Dugun, Tigun and Chaugun Layakaries.
   (i) Teentaal  (ii) Tilwara  (iii) Kehrva
9. Recognition of the following taals through some bols given by the examiner:
   (a) Teentaal  (b) Tilwara  (c) Kehrva
10. Notation of Nagma in Teen Taal.
INDIAN CLASSICAL DANCE

Books Recommended:

1. Kathak Nritya Ka Prichey
   Subhashni Kapoor

2. Kathak Sundaryatmak
   Shashtriya Nritya
   Shikha Kharey,

3. Atihasik Pripeksh Mein
   Kathak Naritya
   Maya Tak

4. Nibandh Sangeeet
   Laxmi Naryan Garg

5. Kathak Naritya Shiksha
   Dr. Puru Dadhich
   Bindu Parkashan, Ujjain(MP.)
SEMESTER–I
INDIAN CLASSICAL DANCE

(PRACTICAL)

Time: 20 Minutes                           Marks: 50

Teaching 9 periods per week

Practical demonstration of the following:

1. **Teen Taal its:**
   - (a) Tatkar in Thaah, Dugun, Tigun and Chaugun Layakaries.
   - (b) Thaat  –  1
   - (c) Tehai  –  1
   - (d) Amad  –  1
   - (e) Salami  –  1
   - (f) Tora  –  2
   - (g) Paran  –  1
   - (h) Chakardar Paran  –  1
   - (i) Kavit  –  1

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

TABLA

(THEORY)

Total Marks: 100

Theory: 3 Hours

Practical: 20 Minutes for each student

Practical Marks: 50

Teaching work load:

Theory 3 periods per week.

Practical – 9 periods per week.

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

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

SECTION–C

1. Detail knowledge and notation of following Talas:
2. Teentaal and Tilwara

SECTION–D

5. Role of Tabla in Gurmat Sangeet.
SEMESTER–I

TABLA

(PRACTICAL)

Time: 20 Minutes Marks: 50

1. Talas Prescribed: Dadra, Teental.

2. Two Laggis in Dadra.

3. Teental: Two Qaidas with Four Paltas each, Two Mukhras, Two Tukra, Two Tihais.

4. Practice of playing the above taals with Vocal and Instrumental performance.

5. Ability to play Theka of Tilwara Taal.

6. Ability to play Nagma on harmonium in Teental.

7. Tuning of Tabla.

8. Ability to sing National Anthem with Harmonium.

Books Recommended:


SEMESTER–I

COMPUTER SCIENCE
COMPUTER FUNDAMENTAL & PC SOFTWARE
(THEORY)

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

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

SECTION–A

1. Introduction to computer and its uses: milestones in hardware and software. Batch oriented/Online/real time application.
2. Computer as a system: basic concepts: stored programs, functional units and their inter–relation: communication with the computer.

SECTION–B

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

SECTION–C

Introduction to Windows based operating system and Desktop icons

SECTION–D

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

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

COMPUTER SCIENCE

(PRACTICAL) Marks: 25

2 Hours/week

Practical based on Computer Fundamental & PC Software
Windows, MS Word, Power Point,

References:
2. MS–Office Compiled by SYBIX
3. MS–Office BPB Publications.
4. Introduction to Computer by P.K. Sinha
SEMMETER-I

INFORMATION TECHNOLOGY (VOCATIONAL)

COMPUTER FUNDAMENTAL & OFFICE AUTOMATION
(THEORY)

Time: 3 Hours

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

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

SECTION–A

Fundamentals:
Basic Block Diagram of the Computer System, Basic Elements of the Computer System (CPU,
Keyboard, Mouse, Monitor), Generations of computers, Computer Number System BIT, Byte,
binary, Decimal, Hexadecimal, Octal system, Conversion from one System to another, Binary
Arithmetic Subtraction, Multiplication), Input Devices (Keyboard, Mouse Joystick, light pen, and
trackball), Output Devices (Monitors or Printers), Memories (Primary and Secondary), RAM,
PROM, EPROM, EEROM), cache memory, Storage Devices (Floppy disk, hard Disk, compact
Disk, tape)
Computer Languages: machine Language, assembly language, High level languages, operating
System, Batch Processing multi–programming, time sharing.

SECTION–B

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

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

SECTION–C

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

SECTION–D

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

INFORMATION TECHNOLOGY (VOCATIONAL)

COMPUTER FUNDAMENTAL & OFFICE AUTOMATION
(PRACTICAL)

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

Books Recommended:-

B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–I) (Session 2019-20)
(Faculty of Engineering & Technology)

SEMESTER–I
COMPUTER MAINTENANCE (VOCATIONAL)

PRINCIPLE OF ELECTRONICS
(THEORY)

Time: 3 Hours Max. Marks: 100

Theory Marks: 75
Practical Marks: 25

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

SECTION–A
Introduction to Electronics: Voltage Source, Current Source, Electronic Components, CRO, Digital Multimeter.

SECTION–B
Semiconductor Devices: P–N Junction, Zener Diode, LEDs, Photodiodes, Transistors, Field Effect Transistor, Metal Oxide Field Efect Transistor.

SECTION–C

SECTION–D
Digital Logic Circuits: Multiplexers, Demultiplexers, Encoders, Decoders, Flip–Flops, Counters, Shift Registers, Semiconductor Memories.

References:
SEMESTER–I

COMPUTER MAINTENANCE (VOCATIONAL)

(PRACTICAL)

List of Practical Based on Principle of Electronics

Marks: 25

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

COMPUTER APPLICATIONS (VOCATIONAL)

COMPUTER FUNDAMENTALS & PC SOFTWARE
(THEORY)

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

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

SECTION–A

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

2. Input Output Devices:
   2.1 Input Devices and Functions
   * Keyboard and teletypewriter terminals
   * Joystick
   * Mouse
   * Light Pen
   * Magnetic Tapes and cassettes
   * Magnetic Disks
   * Floppy and Winchester Disks
   * Optical Marks Reader (OMR)
   * Optical Character Reader (OCR)
   * Magnetic Ink Character Reader (MICR)
   * Punched Cards

   2.2 Output Devices and Functions:
   a) Visual Display UNIT (Monitor), Pixel & resolution, Monitors Size, Monochrome & Color, VGA & SVGA
   b) Plotters
   c) Printers
   d) CTD

3. H/W Organization of a Desktop Computer:
   3.1 Introduction to hardware components
   3.2 C.P.U. Control units, ALU, Registers
   3.3 Instruction Characteristic and Instruction Cycle
   3.4 Memory
   a) RAM – Dynamic RAM, Static RAM
   b) ROM–PROM, EPROM, EEPROM
   c) Cache, Virtual, Extended and Expanded Memories
3.5 Secondary Memory (Storage devices)
   a) Floppy Disk
   b) Hard Disk
   c) DAT
   d) Video or Optical Disk (CD ROM)
   e) CTD

3.6 Moderns and its Types

SECTION–B

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

SECTION–C

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

SECTION–D

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

Text Books:
1. MS–Office Compiled by SYBIX
2. MS–Office BPB Publications.
3. Introduction to Computer by P.K. Sinha
SEMESTER–I

COMPUTER APPLICATIONS (VOCATIONAL)

COMPUTER FUNDAMENTALS & PC SOFTWARE

(PRACTICAL)

2 Hours/week  Marks: 25
SEMMESTER–I

INFORMATION TECHNOLOGY SPECIALIZATION SOFTWARE DEVELOPMENT (VOCATIONAL)

INTRODUCTION TO PROGRAMMING (C) (THEORY)

Time: 3 Hours

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

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

SECTION–A

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

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

SECTION–B


SECTION–C

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

SECTION–D

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

Arrays: Defining, processing an arrays, passing arrays to a function, multi–dimensional arrays.
SEMESTER–I

INFORMATION TECHNOLOGY SPECILIZATION SOFTWARE DEVELOPMENT (VOCATIONAL)

(PRACTICAL)

Basic C Programming  
Marks: 25

Operational Knowledge of C Programming

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

AUTOMOBILE MAINTENANCE (VOCATIONAL) (THEORY)

Time: 3 Hours
Periods per week: Theory: 6

Theory Marks: 60

Instructions for the Paper Setters:-

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

SECTION–A

General Introduction to the Automobile:

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

SECTION–B

Shop Safety and Tools:


SECTION–C

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

SECTION–D

SEMESTER–I

AUTOMOBILE MAINTENANCE (VOCATIONAL)
(PRACTICAL)

LAB–I

Time: 3 Hours
Period Per week Practical: 6
Marks: 40

Practical:
1. Engine dismentling and assembling.
2. Valve Timings.
3. Ignition Timings.
4. Injection Timings.

References:-
1. Basic Automobile Engineering Written by CP Nakra (Punjabi Edition) Published by Dhanpat Rai and Sons, Jalandhar, Delhi.
SEMESTER–I

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)

(THEORY)

Time: 3 Hours
Periods 6 Hours/week Theory Marks: 60

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

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

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


SECTION–C
Effect of Refrigerants on Environment: Introduction regarding Environmental friendly refrigerants.

SECTION–D

SEMMESTER–I

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)
(PRACTICAL: LAB–I)

Time: 3 Hours
Period Per week Practical: 6 Marks: 40

List of Experiments:

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

List of Reference Books:-

1. Ref & AC S. Domkundwar Dhanpat Rai
2. Ref & AC S.C. Arora —do—
Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
1. Definition of terms: What is education? Give examples.
2. Explain the importance of education in today's world.
3. Discuss the role of education in personality development.

Section B
1. Write a short note on the history of education.
2. Discuss the current trends in education.
3. Explain the impact of technology on education.

Section C
1. Write an essay on the role of education in promoting social equality.
2. Discuss the challenges faced in implementing quality education.
3. Explain the impact of globalization on education.

Section D
1. Write an essay on the role of education in economic development.
2. Discuss the role of education in sustainable development.
3. Explain the impact of poverty on access to education.

**Punjabi**:

1. ਵੈਲਾਈਟੀ ਪੁਰਾਣੀ ਸਾਦੀ ਰਾਜੀ ਨਸਲੀ ਕਾਲ, ਪੰਜਾਬੀ ਪੁਰਾਣੀ ਪੁਰਾਣੀ ਸਾਦੀ ਰਾਜੀ ਨਸਲੀ ਕਾਲ, ਪੰਜਾਬ, 2002.
2. ਸਿੰਘ, ਵੋਡਾ ਪੁਰਾਣੀ ਸਾਦੀ ਰਾਜੀ ਨਸਲੀ ਕਾਲ, ਪੰਜਾਬੀ ਪੁਰਾਣੀ ਪੁਰਾਣੀ ਸਾਦੀ ਰਾਜੀ ਨਸਲੀ ਕਾਲ, ਪੰਜਾਬ, 2014.
3. ਕਾਲਾ ਪੁਰਾਣੀ ਸਾਦੀ ਰਾਜੀ ਨਸਲੀ ਕਾਲ, ਪੰਜਾਬੀ ਪੁਰਾਣੀ ਪੁਰਾਣੀ ਸਾਦੀ ਰਾਜੀ ਨਸਲੀ ਕਾਲ, ਪੰਜਾਬ, 2008.
4. ਮੱਥਾਨ ਸਿੰਘ, ਪੰਜਾਬ ਦਾ ਵਪਅਫ਼ਰਟ ਦਾ ਸਗਲ ਸਾਧਨ, ਪੰਜਾਬੀ ਪੁਰਾਣੀ ਪੁਰਾਣੀ ਸਾਦੀ ਰਾਜੀ ਨਸਲੀ ਕਾਲ, ਪੰਜਾਬ, 2007.
5. ਦ੭ੀਤਾ ਪੁਰਾਣੀ ਸਾਦੀ ਰਾਜੀ ਨਸਲੀ ਕਾਲ, ਪੰਜਾਬੀ ਪੁਰਾਣੀ ਪੁਰਾਣੀ ਸਾਦੀ ਰਾਜੀ ਨਸਲੀ ਕਾਲ, ਪੰਜਾਬ, 1999.
6. ਦਰੀਝਾ ਸਿੰਘ, ਪੰਜਾਬ ਦਾ ਵਪਅਫ਼ਰਟ ਦਾ ਸਗਲ ਸਾਧਨ, ਪੰਜਾਬੀ ਪੁਰਾਣੀ ਪੁਰਾਣੀ ਸਾਦੀ ਰਾਜੀ ਨਸਲੀ ਕਾਲ, ਪੰਜਾਬ, 2007.

**Hindi**:

SEMESTER–I

PHILOSOPHY

ELEMENTARY PHILOSOPHY

Time: 3 Hours
Lectures to be delivered: 6 per week
Pass Marks 35%

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

SECTION–A

2. Introduction to the Branches of Philosophy: Metaphysics, Epistemology, Aesthetics and Ethics.
3. Relation of Philosophy with Religion.

SECTION–B

2. Social Problems: Casteism and Gender Discrimination.
3. World Peace: Problems and Solution.

SECTION–C


SECTION–D

1. Culture: Definition and Components
2. Civilization: Definition and Components.
3. Culture and Civilization: Relation and Differences.
Recommended Readings:-

**English Books**


**Punjabi Books:-**

1. ਮਜ਼ੀਕੁਕੀ, ਪਿਹਾਉਣ ਮਿਸ਼ਾਤ (ਸੰਪੇਠ.), ਸਾਬਕਾਟ ਦੇ ਸ਼ਹਿਰੀ ਮਿਹਾਨਾਤਾ, ਲਹਿਰਾਣ ਮਧਾਮਜਿਤਾ, ਰੀਲਿੰਗ।
2. ਭਿਮਾਤਕ ਸਰਜਨ, ਟਾਮਾਟ ਦੀ ਟੀਵੀਡੀਆ ਦੇਖਣ, ਲਹਿਰਾਣ ਮਧਾਮਜਿਤਾ, ਰੀਲਿੰਗ।
3. ਜੂਨਯੂ ਸੀਮਾ, ਸਾਬਕਾਟ ਦੇ ਟੌਮਾਟ, ਪੰਜਾਬੀ ਪ੍ਰਤੀਨਿਧਤਵ ਸੀਮਾ।
4. ਸੀਮੀ, ਤੌਰ ਸੀਮਾ, ਸਾਬਕਾਟਾਂ : ਸਿੱਖ ਦੇ ਹੈਡਰ, ਵਿਕਸਤ ਸਰ ਟੌਮਾਟਾ, ਅੰਧੂਕਾਲ।
5. ਸੀਮਾ ਸੀਮਾ, ਟੌਮਾਟਾ ਦੇ ਮੰਧਰ ਟੌਮਾਟਾ, ਭਾਰਤ ਮਧਾਮਜਿਤਾ, ਵਿਕਸਤ ਸੀਮਾ, 1980.

**Hindi Books:-**

1. श्रीदेव, श्रीमती (ढ़.), समाज टॉमाट, उलिस्बर्थ माइट्स, अब्बास, वंचन्द्र।
2. मित्र, दिमाह मिस कु (ढ़.), समाज टॉमाट, उलिस्बर्थ माइट्स अब्बास, वंचन्द्र।
# ZOOLOGY

## SEMESTER–I

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<td>(RELATED TO ZOO-IA and ZOO-IB)</td>
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SEMESTER–I

ZOOGOLOGY

ZOO–IA: CELL BIOLOGY

(THEORY)

Max. Time: 3 Hrs. \hspace{1cm} \text{Max Marks: 35}

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

Organization of Cell: Extra nuclear and nuclear, ultrastructure and functions of cell organelles
(a) Plasma Membrane: Structure, osmosis, active and passive transport, endocytosis and exocytosis.
(b) Endoplasmic reticulum: Structure, types and associated enzymes.
(c) Mitochondria: Structure, mitochondrial enzymes and role of mitochondria in respiration and mitochondrial DNA.

SECTION–C

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

SECTION–D

Nucleus: Structure and functions of nuclear membrane, nucleolus and chromosomes.
An elementary idea of cell transformation in cancer.
An elementary idea of cellular basis of immunity.

Suggested Readings:-
SEMESTER–I

ZOOLGY

ZOO–IB: BIODIVERSITY–I
(PROTOZOA TO ANNELIDA)
(THEORY)

Max. Time: 3 Hrs. Max Marks: 35

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

Detailed Type study of the following animals

SECTION–A

SECTION–B
Parazoaa (Porifera): Sycon,
Cnidaria (Coelentrata): Obelia

SECTION–C
Platyhelminthes: Fasciola hepatica, Taenia solium Larvae of Fasciola hepatica and Taenia solium

SECTION–D
Aschelminthes: Ascaris, Parasitic adaptations in Helminthes
Annelida: Pheretima posthuma (Earthworm)
SEMESTER–I

ZOOLOGY

Suggested Readings:-

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

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


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


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

D. Platyhelminthes.

Dugesia, Fasciola, Taenia, Echinococcus.

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

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


2. Study of the following permanent stained preparations:
A. L.S. and T.S. Sycon, gemmules, spicules and spongin fibers of a sponge.
B. T.S. Hydra (Testis and ovary region)
C. T.S. Fasciola (Different regions)
D. T.S. Ascaris (Male and Female)
E. T.S. Pheretima (pharyngeal and typhlosolar regions), Setae, septal nephridia, spermathecae and ovary of Pheretima (Earthworm).

3. Preparation of the following slides:
   Temporary permanent preparation of freshwater Protozoanculture.

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

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

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

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

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

FUNDAMENTALS OF MICROBIOLOGY
(THEORY)

Time: 3hrs
Max. Marks: 75

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

SECTION–A

1. Introduction and Scope of Microbiology: Discovery of microorganisms, history of microbiology, controversy over spontaneous origin or microorganisms, discovery of anaerobic life, germ theory of fermentation as life without oxygen, germ theory of disease.

2. Characterization and Identification of Microorganisms: Place of microorganisms in living world, Hackel's and Whittaker's system of classification, prokaryotic and eukaryotic cells, characteristics of main groups of microorganisms.

SECTION–B

3. Methods in Microbiology: Bright field microscopy and its applications, Methods of sterilization, preparation of a culture media, pure culture concept, staining techniques of bacteria such as simple, negative and differential methods.

4. Structure of Bacteria: Fine structure of bacterial cell, cell wall, cell membrane, capsule, pili, flagella, ribosomes, Cytoplasmic inclusions, Bacterial movement, Endospore and physiology of endospore formation.

SECTION–C

5. Nutrition: Nutritional requirements of microorganisms, nutritional types of bacteria, autotrophs, heterotrophs, parasites, types of culture media, differential media, and selective media enrichment media. Control of microorganisms by physical, chemical and chemotherapeutic agents.


SECTION–D


Books Recommended:-


SEMESTER–I

MICROBIOLOGY

(PRACTICAL)

Time: 4 Hours

Marks: 25

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

INDUSTRIAL MICROBIOLOGY (VOCATIONAL)

INTRODUCTION TO MICROBIOLOGY
(THEORY)

Time: 3hrs

Max. Marks: 75

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

SECTION–A

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

SECTION–B

4. Reproduction and growth in microorganisms, Mode of cell division, Growth Curve of bacteria, continuous and synchronous culture, Quantitative measurement of bacterial growth, Effect of various factors on growth of bacteria. Control of microorganisms by physical methods.

SECTION–C


SECTION–D


Books Recommended:-
1. To study the essential of a Microbiology laboratory.
2. To study various part of a laboratory microscope.
3. To study various sterilization techniques.
4. To prepare the culture media for the cultivation of various micro–organisms.
5. To study various laboratory techniques for the cultivation and isolation of pure culture of micro–organisms.
6. To perform simple staining of bacterial cell.
7. To perform the differential staining of bacterial cell.
SEMESTER–I
MICROBIAL & FOOD TECHNOLOGY
FUNDAMENTALS OF MICROBIOLOGY
(THEORY)

Time: 3hrs
Max. Marks: 75

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

SECTION–A

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

SECTION–B

Methods in Microbiology: Bright field microscopy and its application in Microbiology, Methods of sterilization, preparation of a culture media, pure culture concept, staining of bacteria.
Structure of Bacteria: Cell wall, cell members, capsule, pili, flagella, bacterial movement, endospore.

SECTION–C

Nutrition: Nutritional requirements of Microorganisms, nutritional types of bacteria, autotrophs, heterotrophs, parasites, types of culture media, differential media, and selective media, enriched media.
Reproduction and Growth in Microorganisms: Modes of cell division, growth curve of bacteria, continuous culture, synchronous growth, quantitative measurement of bacterial growth, effect of various factors on growth of bacteria.

SECTION–D

Mutations and their chemical basis, DNA as genetic material, recombination in prokaryotes by transformation and conjugation transduction, bacterial plasmids.
Control of Micro-organisms: Control of micro-organisms by physical, chemical and chemotherapeutic agents.

Books Recommended:-
SEMESTER–I

MICROBIAL & FOOD TECHNOLOGY

FUNDAMENTAL AND FOOD MICROBIOLOGY
(PRACTICAL)

Time: 4 Hours  Marks: 25

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

BOTANY

PAPER–I A: DIVERSITY OF MICROBES

(THEORY)

Time: 3 Hrs.
Theory Lectures: 3 Hours/Week

Max. Marks: 35

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

SECTION–A

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

SECTION–B

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

SECTION–C

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

SECTION–D

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

Suggested Readings:
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–I) (Session 2019-20)  
(Faculty of Life Sciences)

SEMESTER–I  
BOTANY  
PAPER–I B: DIVERSITY OF CRYPTOGRAMS  
(THEORY)

Time: 3 Hrs.  
Marks: 35

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

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

SECTION–C

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

SECTION–D

Lycopodium, Selaginella. Equisetum, Pteris and Marsilea.

Suggested Readings:-

3. Paleobotany. I K International Publishing House Pvt Ltd., India  
SEMESTER–I

BOTANY PRACTICALS–I (BASED ON PAPER–IA AND IB)

Practical Hours: 4½ Hours/week  
Marks: 30

Suggested Laboratory Exercises:-

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

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

SEMESTER–I

BIOINFORMATICS (VOCATIONAL)

FUNDAMENTALS OF COMPUTERS, MOLECULAR BIOLOGY
& rDNA TECHNOLOGY
(THEORY)

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

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

SECTION–A

Classification of Computers: Notebook, Personal, Mainframe, Minicomputers, Workstation and Supercomputers)-comparison with memory, power, cost, size-then and now.
Computer Organization and Architecture: Computer Architecture, I/O Devices, ALU, Memory chips (RAM, ROM, DRAM), Storage devices, Memory hierarchy.

MS-Power Point: Introduction Power Point Elements, Creating, opening, saving of Power Point slide, Adding text and title, moving and resizing text, text formatting (using Bullets, font style, font size, color and effects) custom animation, slide transition, insert pictures and sound file to slide.
MS-Excel: Introduction, format of electronic worksheet, adding data in worksheet, cell Addressing Ranges, applying and copying formula, various mathematical and statistical functions, Inserting charts.

SECTION–B

Internet: Introduction to Internet, World Wide Web, Concepts of Domain, Concept of Web Browser, Concept of Intranet and Extranet, Computer network and security
Internet Services and Applications: Internet Tools. Telnet, FTP, E-Mail, Chat, newsgroups,
HTML: Introduction, common tags, creating hyper links, incorporation of images, Tables; Frames, Formatting of text with fonts.
SECTION C

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

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

DNA Replication: Mechanisms of prokaryotic and Eukaryotic DNA replication.

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

SECTION D


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

Recommended Books:-
4. HTML Complete, 3rd Edition (2003), Sybex Inc.
SEMESTER–I

BIOINFORMATICS (VOCATIONAL)

(LAB IN COMPUTER FUNDAMENTALS)

(PRACTICAL)

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

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

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

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

Installation of Windows and LINUX
Basic commands of LINUX.
Basic DOS commands.
Basic Exercises on HTML.
SEMESTER–I

BIOTECHNOLOGY (VOCATIONAL)

MICROBIOLOGY
(THEORY)

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

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

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

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

SECTION-C
Nutritional classification of microorganisms; Microbes in extreme environments—the thermophiles and alkalophiles; Pathogenic microorganisms. Defence mechanism against microorganisms; Symbiosis and antibiosis among microbial populations; N2-fixing microbes in agriculture.

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

Books Recommended:
Time: 3 Hours  
Marks: 25

Microbiological Techniques
Aseptic techniques
Cleaning of glassware
Preparation of media, cotton-plugging and sterilization
Personal hygiene-Microbes from hands, tooth-scum and other body parts.
Isolation of microorganisms from air, water and soil samples.
Dilution and pour plating. Colony purification.
Enumeration of micro-organisms. Total vs. viable counts.
Identification of isolated bacteria. Gram staining, other staining methods, metabolic characterization (e.g. IMViC test)
Growth curve of microorganisms.
Antibiotic sensitivity of microbes, use of antibiotic discs.
Testing of water quality.
One step growth of bacteriophage.
Alcoholic and mixed-acid fermentation

Book Recommended:
SEMESTER–I

EDUCATION

FOUNDATIONS OF EDUCATION

Time: 3 Hours

Max. Marks: 100

Instructions for the Paper Setters:-

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

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

SECTION–A

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

SECTION–B

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

SECTION–C

1. Individual Vs Social, Liberal Vs Vocational aims of Education & their synthesis

SECTION–D

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

Books Recommended:-

1. Bhatia and Narang  
2. Bhatia and Narang  
3. Govt. of India  
4. Prasad and Chandra  
5. Sodhi, T.S.  
6. Taneja, V.R.  
7. Taneja, V.R.  
   Socio-Philosophical Approach to Education, Delhi : Atlantic Publishers, 1983
SEMESTER–I
HUMAN RIGHTS

CONCEPTUAL UNDERSTANDING OF HUMAN RIGHTS

Time: 3 Hours
Max. Marks: 100

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

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

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

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

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

SECTION–D
Constitutional vision of fundamental rights, directive principles and fundamental duties.

Recommended Books:-
SEMESTER–I

DAIRY FARMING (VOCATIONAL)
(THEORY)

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

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

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

SECTION–C

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

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

SECTION–D

Housing

(PRACTICAL)

Time: 3 Hours.
Marks: 50

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

1. Visits to Dairy farms having machine milking, fodder harvesting, feed mixing etc., Veterinary hospitals, Milk collection centre and milk plant. Visit and working study of Milk Producers Co-operative Society.
2. External body parts of Cow and Buffalo.
3. Identification of various breeds of Cows and Buffaloes.
SEASON-1
RSL101 RUSSIAN
PAPER-I (APPLIED GRAMMAR & COMPREHENSION)
Time Allowed: 3 Hrs. M. M.: 40

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

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

SECTION-B
2. Comprehension

SECTION-C
3. Simple questions of general interest on Russia.

SECTION-D
4. Composition of a dialogue on a given situation.
SEMMESTER–I

RUSSIAN

PAPER–II (WRITTEN EXPRESSION & TRANSLATION)

Time allowed: 3 Hrs. M.M.: 40

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

SECTION–A
1. Translation from English into Russian (Simple sentences)

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

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

SECTION–D
4. General questions pertaining to day to day life situations. Five out of seven

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

PAPER–III (ORAL)

Time allowed: 3 Hrs. M.M.: 20

- Reading of a text 05
- Dictation 05
- Simple conversation 10

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

Supplementary Reading:
SEMESTER–I

FRL–101

FRENCH

PAPER–I (COMPREHENSION & COMPOSITION)

Time allowed: 3 Hrs. M. M.: 40

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

2. Questions on comprehension of an unseen passage

SECTION–C


SECTION–D

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

FRENCH
PAPER–II (TRANSLATION & GRAMMAR)

Time allowed: 3 Hrs. M. M.: 40

Instructions for the Paper Setters:-

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

SECTION–A

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

SECTION–B

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

SECTION–C

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

SECTION–D

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

NOTE: Glossary of difficult words may be given for translation purpose in the question.
TIME ALLOWED: 3 HRS.  M. M.: 20

- Reading of a text  05
- Dictation  05
- Simple conversation  05
- Oral Comprehension  05

PRESCRIBED BOOK: “CONNEXIONS-1” by Regine Merieux & Yves Loiseau, Published by Didier
SEMESTER–I

URDU

URL101 Prose and Poetry

Time: 3 Hours Max. Marks: 100

Instructions for the Paper Setters:-

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

Courses of Study

SECTION–A

Translation of Prose passages

SECTION–B

Explanation of verses

SECTION–C

a) Summary of a poem
b) Summary of a lesson

SECTION–D

Direct Questions on Poets and writers studied

Book Prescribed:-

Urdu Nisab Part II, Published by M/S Educational Book House A.M.U. Market, Aligarh-2
SEMESTER–I

PERSIAN

PRL101: PROSE AND POETRY

Time: 3 Hours Max. Marks: 100

Instructions for the Paper Setters:

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

Courses of Study

Books Prescribed:

Farsi-O-Dastur Part – II by Dr. Zehra Khanlari,
Published by Idara Adabiayat, 5803- Sadar Bazaar, Delhi-6
Following lessons are included in syllabus:
1,2,11,20,26.27,29,30,32,33,38,39,47,49 and 50.

Passages for Translation

SECTION–A

Stanzas for explanation

SECTION–B

Theme/ Summary/ central Idea of a Poem or Lesson

SECTION–C

Questions on life and works of poets studied

SECTION–D

Books Recommended:

7. Qabus Nameh. Anjuman Tarraqi Urdu, Jama Masjid, Delhi- 06
8. Marzban Nameh. Anjuman Tarraqi Urdu, Jama Masjid, Delhi, 110006.
Instructions for the Paper Setters:

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

1. भाषा,

2. काव्य पथ: संपादक—डॉ. सुधा जितेन्द्र, प्रकाशक—गुरु नानक देव यूनिवर्सिटी, अमृतसर, 8 कवि रखे गए हैं। 1 से 7 और 9।

3. काव्यपथ पुस्तक में निर्धारित कवियों का सामान्य परिचय एवं कविताओं से सम्बन्धित प्रश्न।

4. आदर्श हिंदी व्याकरण तथा सैद्धांतिकी: डॉ. एच.एम.एल. सूद, वाणीश प्रकाशन, जालंधर। हिंदी व्यावहारिक व्याकरण पुस्तक भी निर्धारित की गयी हैं। संज्ञा, सर्वनाम, विशेषण, क्रिया (केवल व्यावहारिक पक्ष)

5. अनुवाद: शब्दावली (संलग्न), पत्रलेखन: पारिवारिक, शैक्षिक, प्रारंभिक पत्र, निमंत्रण पत्र (केवल व्यावहारिक पक्ष)
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<tr>
<th>S.No.</th>
<th>English Term</th>
<th>Bengali Term</th>
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<tr>
<td>1.</td>
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<td>Board</td>
<td>মণ্ডল / পরিষদ</td>
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<td>পত্র ভ্রমনার, পত্রচার</td>
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<td>15.</td>
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Instructions for the Paper Setters:

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

- विद्यार्थियों को प्रति समस्तर 40 अंक की प्रयोग–पुस्तिका तैयार करनी होगी। जिसमें 20 अंक मौखिक परीक्षा के और 20 अंक प्रयोग–पुस्तिका के होंगे।

- प्रयोग–पुस्तिका का आकलन और मौखिक–परीक्षा गुरु नानक देव विश्वविद्यालय द्वारा निर्धारित परीक्षा–नियमों के अनुसार की जाएगी।

- शब्दों और वाक्यों की सामान्य असुविदाएँ को शुद्ध करने का अभ्यास।
- सारांश का अभ्यास (संक्षेपण)
- हिंदी वर्णमाला की जानकारी देना (अनुच्छेद में से स्वर, व्यांजन निकालने)
- राष्ट्रीयकृत बैंकों, पब्लिक सेक्टर/रेलवे/डाकघर/जीवन बीमा/आयकर विभाग आदि में से हिंदी में प्रयुक्त होने वाले आंकड़े एकत्रित करना।
Semester – I
Hindi Patrakarita (Vocational)

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

Dr. Harishankar Lal Sood, Hindi Bhasha, Prayojanamoolakata and Vyayam, Vigyansh Prakashan, Jalanda—2005
Semester – I
Hindi Patrakarita (Vocational)

- विद्यार्थियों को प्रति समस्त 40 अंक की प्रयोग पुरस्का के तैयार करनी होगी। जिसमें 20 अंक मौखिक परीक्षा के और 20 अंक प्रयोग–पुरस्का के होंगे।
- प्रयोग–पुरस्का का आकलन और मौखिक–परीक्षा गुरु नानक देव विश्वविद्यालय द्वारा निर्धारित परीक्षा–नियमों के अनुसार की जाएगी।

- विभिन्न भाषी समाचार समाचार का संकलन
- शीर्षक–लेखक का अभ्यास
- हिन्दी–सम्प्रेषण निपुणता (Communication Skill) का प्रशिक्षण
- विभिन्न विषयों (राजनीतिक, सामाजिक आदि) पर समाचार–लेखन का अभ्यास
1. ए.वी.एस. (ABC) – ऑडिट ब्यूरो ऑफ सरक्यूलेशन का संक्षिप्त नाम (पत्र प्रसार की जोच करने वाली संस्था)
2. विज्ञापन (Advertisement) किसी स्थल का ज्ञान कराने, विशेष बदलाव या किसी भी ब्रांड को लोकप्रिय करने के उद्देश्य से पैसा लेकर किया गया प्रचार विज्ञापन कहलाता है अथवा वह प्रकाशित मैंट जिसके पैसे लिए जाते हैं।
3. एड (Add) – अर्थात जोड़े।
4. अभिलेख (Archives) – विभिन्न प्रकार के सरकारी प्रकाशन रिपोर्ट, राजनीतिक पाठ्यक्रमों के घोषणा-पत्र, समाचार-पत्रों की पुरानी फाइलें आदि अभिलेखागार में सुरक्षित रखी जाती हैं। आजकल स्थानान्तर के कारण दुर्लभ व महत्वपूर्ण समाचार पत्रों की माइक्रोफिल्म बना ली जाती है जो काफी कम जगह घरेलू है।
5. कला समाधान (Art Aditor) – पत्र व पत्रिका में समयद्वारा दिए गए लेख आदि की तरह-तरह की कल्पना-प्रशंसन सज्जा के साथ प्रस्तुत करने को कला समाधान कहते हैं।
6. पूर्णभूमि लेख (Back Grounder) – किसी घटना के पूरे कार्य, कारण सम्बन्धों या अज्ञात तथ्यों को प्रस्तुत करने वाला लेख या प्राप्ति 'पूर्णभूमि लेख' कहलाता है।
7. संतुलित सज्जा (Balanced Makeup) – समाचार पत्र या पत्रिका में मोटे शीर्षक, चित्र तथा सज्जा आदि को इस तरह प्रस्तुत करना जिससे पृष्ठ का कोई एक भाग हल्का या भड़ा न लगे। इस प्रकार की सज्जा को ‘संतुलित सज्जा’ कहते हैं।
8. बैनर (Banner) – प्रथम पृष्ठ के पूरे समाचार पत्र पर (सभी 8 कॉलमों के शीर्ष पर) जो बड़ा शीर्षक होता है उसे महाशीर्ष (बैनर) कहते हैं। इसे ‘स्टीमर’ ‘रिसन’ या पतका शीर्ष भी कहा जाता है।
9. बीट (Beat) – समाचार संकलन के लिए संवाददाताओं को बांटे गए विषय या कार्य क्षेत्र।
10. बॉक्स (Box) – समाचारों को उभार की दृष्टि से रूलों से घेर देना। कभी-कभी विभिन्न समाचारों को भी चारों तरफ रूलों से घेर दिया जाता है। उसे Box न्यूज़ कहते हैं।
11. बॉडी (Body) – समाचार का मध्य भाग या विशाल जिसमें विवरण दिये जाते हैं।
12. प्रस्तार (Broad-casting-Telecasting) – आकाशवाणी व टीवीदर्शन के माध्यम से सुनना फैलाने की क्रिया।
13. ब्लूटिस्ट (Bulletin) – अधिकृत सूचना, प्रमुख घटनाओं या मामूल सम्बन्धी सूचना प्रकाशित करना।
14. बाइलाइन (By Line) – समाचार के ऊपर दिया जाने वाला संवाददाता का नाम अथवा विशेष संकेत।
15. चित्र परिचय (Captions) – चित्र पर दिया जाने वाला शीर्षक। किसी भी चित्र में या दिखाया गया है, कॉन्वेंशन कहा जाता है तथा क्या कर रहा है? इसका परिचय चित्र के नीचे लिखा जाता है।
16. केस (Case) – लकड़ी खानेदार चीखटा जिसमें तर्कियां से टाइप भरे होते हैं।
17. कोलर (Cary Over) – समाचार के शीर्ष भाग को अन्य पृष्ठ पर ढालना।
18. चैस (Chess) – लोक के आवश्यकतार क्रेस सिम्बोल टीपर तैयार पृष्ठ कसा होता है।
19. रंगीन ब्लॉक (Colour Block) – टाइप से मुद्रण करने की आवश्य के मद्देनजर के रंग-रंग के अलग–अलग ब्लॉक बने होते हैं जिसे ‘रंगीन ब्लॉक’ कहते हैं।
20. केन्ड्र (Censor) – समाचार पत्र में प्रकाशित योग्य सामग्री की जोच व्यवस्था।
21. कोलम (Column) – समाचार पृष्ठ के एक पृष्ठ पर दो रूलों (खड़ी रेखा) के मद्देनजर आठ भाग खड़े होते हैं, उन्हें कोलम कहते हैं। अधिकतर हर समाचार पत्र में आठ कोलम होते हैं कोई पृष्ठ व दो कोलम के भी होते हैं।
22. कॉपी (Copy) – समाचार पत्र के लिए लिखित मसाला।
23. कॉपी होल्डर (Copy Holder) – यह व्यक्ति प्रूफ रीडर का सहायक होता है यह मूल प्रति को पढ़ता जाता है और उससे के अनुसार प्रूफ रीडर संशोधन करता जाता है।

24. संबंधदाता (Correspondent) – समाचार पत्र को संबंध अर्थात खबर भेजने वाला। एक अब्ज समाचार पत्र हर विभाग के लिए अलग-अलग संबंधदाता रखता है जैसे-खेल संबंधदाता, कृषि संबंधदाता आदि।

25. कवर करा (To Cover) – प्रेस रिपोर्टर जब समाचार संक्षेप के लिए पढ़ना स्थल पर जाते हैं और उस पृष्ठ के तत्वों के लिए सामान्य से समाचार बनाते हैं उसे कवर करना कहा जाता है।

26. देश (Dash) – शीर्षकों के विभाग के लिए दाता गई नोटिश जो अनेक रूपों में होती है।

27. डेट लाइन (Date Line) – अर्थात तिथि रेखा। इसके अन्तर्गत स्थान तारीख और महीने का उल्लेख होता है लेकिन वर्ष का उल्लेख नहीं किया जाता। जहां समाचार लिखा जाता है वहीं डेट लाइन का स्थान होता है बसे ही घटना कहीं भी घटता हो।

28. डेट लाइन (Dead Line) – अर्थात इति रेखा या लंबग्रंथ रेखा। किसी भी संक्षेप के लिए अंतिम निर्धारित समय जब तक कम्युंज की विभाग को पत्रित करता है।

29. हिलीट (Delete) – अर्थात कटाए। प्रूफ संशोधन का यह विभाग जो मैंट निकालने का संकेत देता है।

30. अवलोकन (Display) – यानि प्रस्तुत करना। समाचार क्षेत्र: पृष्ठ साइंट-साइन्स, साजीवी छपाई या कलात्मक ढंग से मुख्य को दिखाने के है।

31. डिस्फ्रोब्लूट (Distribute) – कम्युंज के लिए एक मैंट के लोकार्थ अन्तरात्मक केंद्र में पुनः होना।

32. एम्बार्गो (Embargo) – प्रतिबंध या रोक। जब किसी पूर्णपद्धति समाचार के प्रकाशन के लिए कोई तिथि निर्धारित की जाती है या उस पर चालू न करने का आदेश दिया जाता है।

33. इंडेंट (Indent) – किसी पंक्ति में एक या दोनों ओर हाशिया छोड़ना यह पंक्ति पूरे कालम से छोटी होती है।

34. इंट्रो (Intro) – इंट्रोडक्शन का संक्षेप रूप। किसी समाचार या लेख के आरम्भ में एक या दो प्रारंभिक जिन्हें ज्यादा या सारे तरीके से समीक्षा करने के लिए है।

35. फोलो अप (Follow up) – अर्थात अनुरोध। दूसरे समाचारों के नयीतम विवरण अर्थात किसी प्रकाशित या गत दिन के समाचार के बाद उसी से सम्मिलित नए समाचार की प्राप्ति करना ‘फोलो अप’ कहलाता है।

36. फेस (Face) – टाइटल के मुख्य में ब्राइट, बस्मी, कलकत्ता और बोल्ड (भारी आधि)

37. फिलर (Filler) – वे छोटे-छोटे समाचार जो आवश्यकता पड़ने पर खाँचे भर देते हैं।

38. छ: कक्ष फाइव हे’व ऑन’ हे’) – डेडलाइन प्रकटियां ने संबंधित समाचार लेख के लिए 5 डेडलाइन एवं एक एक का उल्लेख किया है जिसके विश्लेषण में छ: कक्ष कहा जाता है ये हैं – (1) क्या (2) कहने (3) कब (4) कौन (5) कैसे और (6) क्यों?


39. लाग बुक (Lag Book) – यह रजिस्टर जिसमें सम्पादकीय विभाग की सूचनाएँ लिखी जाती हैं।

40. लाइन ब्लॉक (Line Block) – लाइनों से बने चित्रों का ब्लॉक।

41. मेकअप (Makeup) – अर्थात पृष्ठ सजाना या निर्माण। समाचारों एवं चित्रों को पृष्ठांक में इस प्रकार सजाना कि वह अधिक से अधिक आकर्षक लगे।

42. पेपर बुक (Page Proof) – अंतिम निर्धारण के लिए तैयार पूरे पेपर का प्रूफ।

43. पैनल (Panel) – दण्ड-पट्टिका का यह संक्षेप समाचार जो दोनों ओर हाशिया छोड़कर कम्युंज किया जाता है यह अक्सर काले टाइटल में होता है और उसके ऊपर एवं नीचे फूल या ‘बार्बर’ लगाया जाता है।

44. फोटो संग्रह (Photo-Collection) – समाचार के साथ समाचार का फोटो लगाने से वह समाचार महत्त्वपूर्ण बन जाता है। इस फोटो का दुबारा उपयोग में लाया जा सकते हैं इसके लिए अथवा उसके बोल्ड को बनाते प्रकार से व्यवस्थित करके सुरक्षित रखा जाता है उसकी सूची बनाकर क्रम में रखी जाती है। जिससे आवश्यकता पडने पर वाहित फोटो अथवा ब्लॉक शीर्ष काम में लिखा जा सके।
45. प्लेट (Plate) – रोटी के लिए फ्लास्क से तैयार अर्थ-गोलाकार धातु का सांचा।

46. पाइप (Point) – टाइप के लिए नापने के पैकेट। लंबाई 1’” का 72 वाँ माथा।

47. प्रेस (Press Box) – सभागर्भ माध्यम में प्रेस का अर्थ प्रिंटिंग या मुद्रणालय होता है लेकिन पत्रकारिता की माध्यम का अर्थ समाचार पत्र होता है।

48. प्रेस बैंक (Press Bank) – किसी सभा या गोष्टी में प्रेस के व्यक्तियों के लिए एक निश्चित स्थान (कक्ष) होता है। जहाँ समाचारदाता, प्रेस फोटोग्राफर समाचार व फोटो लेते हैं।

49. प्रेस कॉपी (Press Copy) – किसी समाचार, लेख, कविता, कहानी आदि का समापन करने के लिए जो पांडुलिपि होती है उसे प्रेस की माध्यम में प्रेस कॉपी कहते हैं।

50. प्रेस कटर (Press Cutting or Chippings) – विभिन्न समाचार पत्रों में प्रकाशित समाचारकों, लेखकों, टिप्पणियों एवं महत्वपूर्ण सूचनाओं को काटकर किसी कार्ड बोर्ड पर चिपकर कर वर्टिकल फाइलिंग के बिन्दु में व्यक्ति प्रकार की फाइलों में विभाजित करके रखा जाता है जिससे आवश्यकता पड़ने पर फाइलों के शीर्षक देखकर गुजरा ज्यद ज्या किया जाता है कि बूफ्ट, में इस विषय पर कितना सूचना प्रकाशित हुआ था। इसमें स्थान दिनांक भी अंकित होता है। पत्रकारों के लिए ये सामग्री काफी महत्वपूर्ण और उपयोगी होती है।

51. प्रेस लाइन (Press Line) – जिस स्थान में पत्र के समाचार का नाम पत्र के प्रकाशक, मुद्रक व स्थान का नाम दिया जाता है।

52. प्रेस विज्ञप्ति (Press Note) – सरकार, सरकारी कार्यालय, विभिन्न राजनीतिक दल, विभिन्न संस्थाएं आदि अपने कार्य, कार्यक्रमों, उद्देश्यों, नीतियों और गतिविधियों की जानकारी देने के लिए प्रेस को जो सूचना जारी करती है उसे प्रेस विज्ञप्ति कहते हैं।

53. प्रेस रिलीज (Press Release) – प्रकाशक के लिए दी जाने वाली विज्ञप्ति।

54. प्रेस तार (Press Telegram) – समाचार पत्रों, समाचार, समितियों, आकाशवाणी व दूरदर्शन केंद्रों में प्रकाशन व प्रसारण के लिए जो समाचार तार द्वारा भेजे जाते हैं वे प्रेस तार कहलाते हैं। इसके द्वारा महत्वपूर्ण समाचार ही भेजे जाते हैं। क्षेत्रीय और आंचलिक समाचार द्वारा ही भेजे जाते हैं व्यक्तिक वहाँ शीर्ष समाचार भेजने का कोई साधन नहीं है।

55. प्रिंट ऑर्डर (Print Order) – मुद्रित होने के लिए दी जाने वाला लिखित आदेश प्रिंट ऑर्डर कहलाता है।

56. प्रूफ (Proof) – मैट अथवा ब्लॉक की समाचार छाप जिसमें गलतियां ठीक की जाती है। सामान्यतः प्रूफ पढ़ने के निशान निम्न हैं—

| स्पेस नीचे दबाओं r मिलाओं | पेठाग्राफ़ पेठाग्राफ़ नहीं | दो एम पैपरल है 2/m |
| स्पेस कम करो v | रंग फॉन्ट w.f | पैरिच्युसिओसिस (पैरिच्युसिओसिस) |
| छोटे ग्राफ़ लगाओ ^ | जगह वालवर करो <> # | लैरन सीडी करो |
| सीधा करके लगाओ | कंपिटर्स Cap | फुल स्टाइप |
| स्पेस डालो # | स्मॉल कंपिटर्स sc | कोमा |
| दार्जिलिंग या बायें लिखकाओ [ ] | लीटर केंट 1w | हाईफ़न |
| ऊपर या नीचे लिखकाओ ∨ | सुपरस्कर या इनपुटरर | कोलन |
| जहां बदलो tr | इलेक्ट्रिक | सेमीकोलन |
| जैसा है वैसा ही रहने दो stat | रोमन | एप्स ट्रेक्टरी |
| निकाल दो r | ब्रेकेट | कोटेशन |
| दूरा अक्षर बदलो x | क्रिया | एम कवाड |
| क्रिया | एम एम डेश |
57. पूर्व सिर्फर (Proof Reader) — वह व्यक्ति जो समाचार आदि की पापड़ुलिपियों का संशोधन करता है। इसे संशोधक भी कहा जाता है।

58. सूचना सार (Recorders) — अर्थात् संदर्भ स्त्रोत जिनमें किसी देश, महाकाव्य अथवा क्षेत्र में एक सतारा या 15 दिन में हुई मुख्य घटनाओं की जानकारी, तिथि क्रमानुसार की गई होती है। प्रथम अंक के साथ ही इसकी जिल्ला दी जाती है। आपने वाले अंक वाइडर का सिपाह खोलकर लगा दिे जाते हैं अन्त में इष्टेक्स होता है। उदाहरण अन्य — (1) एशियन रिक्वर (2) एफ्रिका डायरी आदि।

59. री राइट (Re-Write) — किसी समाचार का परिष्कर्त अर्थात् सुधारने के लिए फिर से लिखना अर्थात् पुनःलेखन।

60. फ्लू (Rule) — धातु की वह पट्टी जो टाइप जितनी ऊंचाई की होती है और रेखा ढालती है।

61. स्काय प्लाइन (Sky-Line) — ऐसा संदर्भ स्त्रोत जो किसी अन्य समाचार पत्र में प्रकाशित नहीं हुआ हो। संवादपत्ता द्वारा जुटाया गया कोई ऐसा समाचार जो केवल उसी के हाथ लगा हो और किसी विषय की प्राप्त नहीं जानकारी देता हो।

62. संवाद समिति (Samvad Samiti) — संवाद समितियों समाचार के एक कोने के दूसरे कोने तक पहुंचाने का संशोधन अल्मक है। ये अपने टेलीफ्रैक्टरों के माध्यमों से आकाशवाणी, दूरदर्शन के तथा सेंट्र के लेख समाचार पत्रों के कार्यालयों तक समाचार पहुंचाते हैं।

63. च्यूनी (Screen) — हॉट टोन चैंडर ठेयर करने का एक आधार जो कागज की विकलाई के अनुरूप होती है। एक वर्ग इंच में भिन्नों की संख्या।

64. स्लेक्स लाइन (Sky-Line) — ऐसा संदर्भ स्त्रोत जो किसी अन्य समाचार पत्र के नाम पट्टी के ऊपर दिया जाता है जहां अति ऊपर होता है इसलिए इसको 'रैकाइल लाइन' या 'थ्रोम रेखा' कहते हैं। इसका प्रयोग विषय समाचार देने के लिए किया जाता है जैसे कुछ संदर्भ समाचार पत्रों में ही जवाहर लाल नेहरू के निधन का समाचार देने के लिए 'रैकाइल लाइन' शीर्षक का प्रयोग किया था।

65. स्टेल (Slag) — समाचार की विभिन्न कृषि पर पहचान के लिए दिे जाने वाला छत्र संकेत।

66. रिक्वर (Stick) — प्रेस भाषा में नाप का मानक धातु का खोँवेनुमा यन्त्र जिससे टाइप स्टांडर्ड कंप्यूटर लाइन खड़ा करता है। इसमें 10 लाइनें आती हैं।

67. स्टोरी (Story) — समाचार का पूर्ण विवरण कथा या कहानी नहीं।

68. टेली प्रिन्टर (Teleprinter) — मैचसी को उल्लेख करने वाली टीएमएस जो टेलीप्रिंटर कहा जाता है इसके माध्यम से समाचार एक स्थान से दूसरे स्थान पर भेजे जाते हैं।

69. थ्रीटी (Thirty) — तीस का अर्थ जिसका अर्थ है समाप्त।

70. अपराइट पियरिमाइड (Upright Pyramid) — मानवीय संबंध संबंध उत्पादन करने या उभारने वाले समाचार घटना या उसके महत्वपूर्ण व्याख्याता अर्थमें न देकर बाद में उसका उल्लेख किया जाता है अर्थात् सभी महत्वपूर्ण समाचार प्रारम्भ में न देकर धीरे-धीरे महत्वपूर्ण विषय को लिया जाता है और सवालों महत्वपूर्ण विवरण पर समाप्त किया जाता है।

71. व्हाइट स्पेस (White Space) — समाचार पत्र का अमूर्त भाग जो पाठकों का ध्यान आकर्षित करने के उद्देश्य से विज्ञापनों या शीर्षकों में छोड़ दिया जाता है।

72. रोग फोन्ट (Wrong Font) — मैं न खाने वाला गलत साइज का टाइप।
Instructions for the Paper Setters:

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

SECTION–A

पूर्णसार्धशतकम् के 1 से 32 श्लोक
भक्तपूर्ण सिंह जी का जीवनरूप, भक्तपूर्ण सिंह जी का जीवन दर्शन,
1–32 श्लोकों पर आधारित प्रश्न, सार।

SECTION–B

पूर्णसार्धशतकम् के 33 से 65 श्लोक
भक्तपूर्ण सिंह जी का सेवामार्ग, भक्तपूर्ण सिंह जी की सेवा के विकिर प्रसंग,
33–65 पद्धार्य पर आधारित प्रश्न, सार।

SECTION–C

1–100 संस्कृतसंस्कृतवाचक शब्द
स्वरसंधि
निर्धारित धातुओं के लट, लोट एवं लूट में रूप।
भावादिगणण—मृ, पद्, हस, लिख वद, गम्, पत्, दृश्, स्मृ, पच्
आदादिगणण—अस्
जुधोत्थादिगणण—दा
दिबादिगणण—दिव, नृत, नश्
स्वादिगणण—शक्, श्रु
तनादिगणण—कृ

SECTION–D

निर्धारित अव्ययों का संस्कृत वाच्य में प्रयोग
कुट, यत्र, तत्र, सर्वाद, चिरम्, पुनः, र्वः, सदा, यदा, कदा, यथा, तथा, अथुना, अथे, एवम्।
युंिनद C में निर्धारित धातुओं के लट एवं विचित्रि लकडारों में रूप।
वर्णाच्चारण।
पाद्यक्रम के A, B, C, D 4 सेमेंसन हैं। अतः प्रश्न पत्र के भी A, B, C, D 4 सेमेंसन बनायें जायेंगे तथा उन में 8 प्रश्न (पाद्यक्रम के सेमेंसन A से 2, B से 2, C से 2, D से 2) दिये जायेंगे। यदि आवश्यकता हो तो किसी भी प्रश्न के क.ख.ग.घ भाग बनाये जा सकते हैं, परन्तु सभी प्रश्नों के अंक समान हों।

**SECTION–A**

| Question–I | पूर्णसार्धशास्त्रकम के 1 से 32 श्लोकों में से 4 की साप्ताहिक व्याख्या | 20 अंक |
| Question–II | क. प्रश्नों के लिए निर्धारित बिन्दुओं में से एक प्रश्न | 10 अंक |
| | ख. प्रश्नों के लिए निर्धारित बिन्दुओं में से एक प्रश्न | 10 अंक |

**SECTION–B**

| Question–III | पूर्णसार्धशास्त्रकम के 33 से 65 श्लोकों में से 4 की साप्ताहिक व्याख्या | 20 अंक |
| Question–IV | क. प्रश्नों के लिए निर्धारित बिन्दुओं में से एक प्रश्न | 10 अंक |
| | ख. प्रश्नों के लिए निर्धारित बिन्दुओं में से एक प्रश्न | 10 अंक |

**SECTION–C**

| Question–V | निर्धारित संख्याओं में से 10 को संक्षेप में लिखिये | 20 अंक |
| Question–VI | क. निर्धारित धातुओं में से 2 धातु देकर लद, लोट, एवं लूट रूप पूछे जायेंगे। | 10 अंक |
| | ख. सर्व संधि में से 5 का संधि/संधिविच्छेद | 10 अंक |

**SECTION–D**

| Question–VII | निर्धारित अवयवों में से 8 का वाक्यों में प्रयोग पूछा जाए। | 20 अंक |
| Question–VIII | क. निर्धारित धातुओं में से 2 धातु देकर लद, एवं बिल्डिंग रूप पूछे जायें। | 10 अंक |
| | ख. 5 वर्णों का उच्चारण स्थान पूछा जाए। | 10 अंक |

1. पूर्णसार्धशास्त्रकम (दलबीर सिंह चाहल), पढ़नकेशन ब्यूरो, गुरु नानक देव विश्वविद्यालय, अमृतसर
SEMESTER–I
FUNCTIONAL SANSKRIT (VOCATIONAL)

Time: 3 Hours Max. Marks: 100

प्रश्न पत्र हिन्दी में होगा।

Instructions for the Paper Setters:-

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

SECTION–A

इन किन्द्रों से संबंधित विस्तृत अध्ययन:
भारतीय संस्कृति
भारतीय संस्कृति के ग्राह्य तत्त्व

SECTION–B

इन किन्द्रों से संबंधित विस्तृत अध्ययन:
धार्मिक विधियों के उद्देश्य एवं प्रयोजन
पंचांग परिचय

SECTION–C

इन किन्द्रों से संबंधित विस्तृत अध्ययन:
सन्ध्यावन्दन विधि
प्राणायाम विधि
अर्धिन आवाहन विधि

SECTION–D

इन किन्द्रों से संबंधित विस्तृत अध्ययन:
ज्योतिष शास्त्र परिचय
जातकरचनाप्रकाशक
शान्ति होम
पाद्यक्रम के A, B, C, D 4 सैक्षण हैं। अतः प्रश्न पत्र के भी A, B, C, D 4 सैक्षण बनायें जायेंगे तथा उन में 8 प्रश्न (पाद्यक्रम के सैक्षण A से 2, B से 2, C से 2, D से 2) दिये जायेंगे। यदि आवश्यकता हो तो किसी भी प्रश्न के क,ख,ग,घ भाग बनायें जा सकते हैं, परन्तु सभी प्रश्नों के अंक समान हों।

| SECTION–A |  |  |
|-----------|  |  |
| Question–I | प्रश्न | = 20 अंक |
| Question–II | प्रश्न       | = 20 अंक   |

| SECTION–B |  |  |
|-----------|  |  |
| Question–III | प्रश्न | = 20 अंक |
| Question–IV | प्रश्न       | = 20 अंक   |

| SECTION–C |  |  |
|-----------|  |  |
| Question–V | प्रश्न | = 20 अंक |
| Question–VI | प्रश्न       | = 20 अंक   |

| SECTION–D |  |  |
|-----------|  |  |
| Question–VII | प्रश्न | = 20 अंक |
| Question–VIII | प्रश्न       | = 20 अंक   |
SEMMESTER–I

ENGLISH (COMPULSORY)

Time: 3 Hours                      Max. Marks: 50

Instructions for the Paper Setters:-

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

Texts Prescribed:-

1. Tales of Life (Guru Nanak Dev University, Amritsar) Stories at Sr.No.1, 2, 3, 5 and 6
2. Prose for Young Learners (Guru Nanak Dev University, Amritsar) Essays at Sr. No. 1, 2, 3, 5 and 6
3. English Grammar in Use (Fourth Edition) by Raymond Murphy, CUP

The syllabus is divided in four sections as mentioned below.

SECTION–A

English Grammar in Use, 4th Edition by Raymond Murphy, CUP (Units: 1-37)

SECTION–B

Paragraph Writing and English Grammar in Use (Units: 38-48)

SECTION–C

Tales of Life (Guru Nanak Dev University, Amritsar): Stories at Sr. No. 1, 2, 3, 5 and 6

SECTION–D

Prose for Young Learners: Essays at Sr. No. 1, 2, 3, 5 and 6
SEMESTER–I
ENGLISH (ELECTIVE)

Time: 3 Hours                        Max. Marks: 100

Instructions for the Paper Setters:-

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

Prescribed Books:
1. *A Doll’s House* by Henrik Ibsen (preferably Penguin Classics Edition)
2. *Spots of Time* G.N.D.U. Amritsar
4. *Better Pronunciation of English* by J.D.O’Connor

The syllabus is divided in four sections as mentioned below:

**SECTION–A**

a) Literary Terms: Ballad, Character, Comedy, Conceit, Epic, Irony, Plot, Paradox
b) Transcription of Words: comb, crèche, dose, gauge, ghost, castle, gross, mauve, sure sample, wolf, wool, arch, off, of, door, stair, what, cough, clerk, tooth, yak, yawn, sing, tongue.
SECTION–B

Spots of Time: Poems at serial No. 1, 2, 3, 5, 7, 8, 9

SECTION–C

Spots of Time: Poems at serial No. 10-12, 14, 19, 20

SECTION–D

A Doll’s House by Henrik Ibsen
SEMESTER–I

FUNCTIONAL ENGLISH (VOCATIONAL)
PHONETICS AND PHONOLOGY (THEORY)

Time: 3 Hours

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

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

Book Prescribed: J.D.O'Connor, Better Pronunciation of English

Course Contents:

SECTION–A
The phonology of English: Phonetic Symbols for Consonants, Vowels and Diphthongs, Consonant clusters

SECTION–B
The Syllable, Weak Forms and Contractions

SECTION–C
Word Stress, Sentence Stress

SECTION–D
Intonation: Patterns of Intonation in simple sentence types.

(PRACTICAL)

Marks: 40

The main emphasis in the practical examination should be to assess the pronunciation of the examinees. Some of the suggested tasks for practical examination are given below:

1. The examinees may be asked to pronounce some individual words, or loudly read a passage. 10 Marks
2. The examinees may be asked to form groups and to engage in conversation on the given topic. 10 Marks
3. The examinees may be asked to listen to a recorded conversation and transcribe that conversation. 10 Marks
4. Any other practical activity 10 Marks

Note: The examiner may use some other similar modes of testing.

Suggestions for Teaching:

1. Lists of minimal pairs may be used (e.g. cot–court, ship–sheep, etc.) for practice in listening and speaking.
2. Emphasis is to be placed on the use of spoken language rather than on theory. Once the learners are familiar with the speech sounds, patterns of stress and intonation, they must be given intensive practice in these areas.
3. It must be made clear that the model of pronunciation is not strictly R.P. Learners should follow the dictionary as closely as possible but wherever there are differences between R.P. and the sounds used in Indian English, these differences can be accepted if they do not interfere with intelligibility and clarity of speech. (Teachers may not insist on a perfect articulation of RP sounds).
SEMESTER–I

Punjabi (Compulsory) (ਸੰਸਕ੍ਰਿਤ)

.semester : 3  ਪੇਟੀ  

ਵਿਚਕਾਰੀ  ਅਦਾਕੁਲਾਦ ਤਸਵੀਰ ਉਦਾਹਰਣ

1. ਪੂਰਨ ਪੈਸਾ ਦੇ ਚਾਲ ਖਾਲ ਦੇਖਾਂ। ਉਹ ਖਾਲ ਦੀਵਾਂ ਦੇ ਪੂਰਨ ਪੈਸਾ ਲਿੱਖਣ ਦਾ ਸਾਰਾ ਦੇਖਾਂ।
2. ਹਿੰਦੀ ਅਭਿਆਸਕ ਦੀ ਵੱਡਾ ਪੂਰਨ ਤਰ੍ਹਾਂ ਲਿੱਖਨ ਦਾ ਸਾਰਾ ਦੇਖਾਂ। ਉਹ ਖਾਲ ਦੀਵਾਂ ਦੇ ਪੂਰਨ ਸਾਰਾ ਦੇਖਾਂ।
3. ਵੇਰ ਪੂਰਨ ਦੇ ਚਾਲ ਅਹਲ ਦਾ ਦੇਖਾਂ।
4. ਪੈਦਾ ਮੈਂ ਚਲਾ ਦੇਸੀ ਸੇਵਾ ਦੀ ਅਨੁਨਾਵ ਦੇ ਪੂਰਨ ਦੀ ਲੇਖ ਮੂੰ ਹਣ ਦੇ ਮੂੰ ਹਣ ਛੁੱਟ-ਪੂਰਨ ਦੇ ਲੇਖ ਵਲ ਮਹਾਂ ਦਾ ਦੇਖਾਂ।

ਪੰਜਾਬੀ ਅਦਾਕਾਰਤਾ ਪੰਜਾਬੀਵਾਣੀ

ਚੀਤਾਂ - ਦੇ

ਚੀਤਾਂ (ਚਿਤਰਕਾਰ ਚਿੱਤਾਂ) (ਸੀ. ਉਰਦੂ ਮਿਥਾ ਦੀਵਾਂ ਅਦਾਕਾਰਤਾ ਦੀ ਪੂਰਨ ਸਾਰਾਦਾਰੀਆਂ),ਚਾਲਾਅਕਾਰ ਦੇਖਾਂ। ਹਿੰਦੀ ਦੀ ਸਾਰਾਦਾਰੀਆਂ, ਤਸਵੀਰਾਦਾਰੀ,
(ਲੇਖਕ ਦੀ ਜੀਵਨ ਤੇ ਰਚਨਾ/ਵਸਤੂ)

ਚੀਤਾਂ - ਹੁਣ

ਚੀਤਾਂ ਦੀਆਂ ਭੁਜਾਂ ਦੀਆਂ ਕਸ਼ਤਾਂਆਂ (ਜਿਨਾਂ ਦੇ 1 ਦੋ ਉੱਚ)
(ਸੀ. ਪੁਣੇ, ਦੋ ਦੋ ਮਿਥਾ, ਤਰਕਾਦਾਰ ਦੀ ਸਾਰਾਦਾਰੀ),
ਪੰਜਾਬੀ ਸਾਰਾਦਾਰ ਪੂਰਨ ਸਾਰਾਦਾਰ ਤਸਵੀਰਾਦਾਰ,
(ਹਿੰਦੀ-ਸ਼ਾਹਵਾਣਾ/ਤਸਵੀਰ ਦੀ ਸਾਰਾਦਾਰੀ,

ਚੀਤਾਂ - ਜੀ

(ਚਰ) ਪੈਦਾ ਚੁਲਾ (ਦੀਵਾਂ ਦੀਵਾਂ ਦੇ ਲੇਖ)
(ਅਲ) ਪੈਦਾ ਪੂਜਾ ਦੇ ਪੂਰਨ ਦੇ ਲੇਖ ਦੇ ਦੁਪਾਸਾ

ਚੀਤਾਂ - ਭੀ

(ਚਰ) ਕਾਨਾਂ ਦੀਆਂ ਮੇਂਦਰਾਂ : ਕਾਨਾਂ ਦੇ ਤਾਂਸਕੀ ਦੇਸੀ, ਕਾਨਾਂ ਦੀਆਂ ਪੁੱਖ ਦੀਆਂ ਦੀਵਾਂ ਦੇ ਲੇਖ, 
(ਅਲ) ਪੰਜਾਬੀ ਦੀਆਂ ਦੀਵਾਂ : ਹਿੰਦੀ ਦੇ ਦੀਵਾਂ
SEMESTER–I

Punjabi (Elective) ਪੰਜਾਬੀ (ਇਲਕਟੀਵ)

ਸਭਾ : 3 ਕੁਠੀਵਾਲੀ
ਬੁਜੇਲਾਂ: 100

ਅੱਠ-ਦੌੜ ਵਿੱਚ ਪਰਵਿਚਾਰਭਾਵ ਸਟਾਇਲ ਉਪਚਾਰਣ

1. ਪੰਜਾਬ ਬੰਦ ਰੇਹਾ ਹਾਂ। ਤਾਂ ਫੱਕ ਦੀਆਂ ਦੀਆਂ ਪੰਜਾਬ ਬੰਦ ਰੇਹਾ ਹਾਂ।
2. ਹਿੰਦੀ ਭਾਸ਼ਾ ਦੀ ਚੌੜੀ ਪੰਜਾਬ ਬੰਦ ਰੇਹਾ ਹਾਂ। ਤਾਂ ਫੱਕ ਦੀਆਂ ਦੀਆਂ ਪੰਜਾਬ ਲਗਪਾਈਆਂ ਹੋਏ।
3. ਹਿੰਦੀ ਪੰਜਾਬ ਦੇ ਬਗਲ ਬੁਜੇਲਾਂ ਲਗਪਾਈਆਂ।
4. ਕ੍ਰਿਸ਼ਨ ਮੈਦਾਨ ਤੋਂ ਲੱਗ ਸੇਵਾ ਦੇਣ ਵਾਲਾ ਉਹ ਪੰਜਾਬ ਦੀ ਚੌੜੀ ਅਡੋਂ ਬੰਦ ਰੇਹਾ ਹਾਂ।

ਸਾਹਿਤਿਕ ਅਧੀਨ ਪੰਜਾਬ ਜਾਂ ਸ਼ਕਲ

ਸੈਕਸ਼ਨ-ਐ

ਮੂਰਤੀ ਦੇ ਮੁਖਾ (ਪ੍ਰਦੁਆਂ ਭਾਸ਼ਾ ਬਹੁ-ਪ੍ਰੋਜਕਟ : 1901-1995),
(ਸੇਕਸ਼ਨ-ਬੈਂਟਰਾਮ ਬਣਾ ਅਦੀਸ ਹੋਰਾ ਦੀ ਟੀਸੀ ਅੰਗੀ), ਚੁਣਾ ਲੱਗ ਦੇਣ ਲਿੱਖਿਆਂ ਮਿਲੀਆਂ, ਅਧਿਆਪਤ ਵਾਲਾ।

ਬਹਾ : ਬੱਲ ਬੁਝ ਮਾਤਾ, ਪੁਤਰ ਪੁਤਰ ਮਾਤਾ, ਮਤਰ ਮਾਤਾ, ਭਾਜੂਂ ਭਾਜੂਂ, ਬਗਲ ਬੰਦਰ, ਮਿਹ ਮਿਹ, ਸੰਸਕ੍ਰਿਤ,
ਪੰਛੀ, ਮੁਖਨੀ ਪ੍ਰਦਾਨ।
(ਪੰਜਾਬ ਸਾਹਿਤ ਲਿਖਾਣਾ/ਅਧਿਆਪਤੀ-ਲੂਕ)
SEMMESTER–I

Mudhli Punjabi
मूंढ़ली पंजाबी
(In lieu of Compulsory Punjabi)

कोट-एड़ अठे पाठीभाषा भवी उपाधियों

1. पूर्ण भाषा दे चार बजे टेस्टो। उज बजा दिए दे पूर्ण पूंड़े सटो।
2. प्रिंसेपी दे टूल पैं पूर्ण चरते रहत। उश बजा दिए दिए पूर्ण समापस है।
3. मेवमल दे अक्षर अंद सटा।
4. थेवट बादल दर्श कोचर लागे आने पूर्ण सी देंद भले दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें दें
SEMESTER–I

FUNCTIONAL PUNJABI (VOCATIONAL)
(ਪੰਜਾਬੀ ਪ੍ਰਕਾਸ਼ਨਾਂ)
(Theory)

ਕੁਲ ਅਰਕ: 100

ਪਰਚਾ ਏ: ਲਿਖਣ ਸ਼ੈਲੀਆਂ
ਅਰਕ: 50

ਪਰਚਾ ਬੀ: 
ਅਰਕ: 50

1. ਪੰਜਾਬੀ ਉਚਾਰਨ ਅਤੇ ਲਿਖਤ ਨਾਲ ਮੁਕਲ ਢਲੀ ਜਾਣ ਪਛਾਣ

2. ਲਿਖਣ ਅਤੇ ਿਲਖਣ ਦਾ ਅਿਭਆਸ

ਪਰਚਾ ਏ - ਲਿਖਣ ਸ਼ੈਲੀਆਂ

ਸੂਚਨਾ: ਇਤਨਾ ਅਰਕ: 50

ਪਾਠ-ਬੁਬਾ

ਨੇਵਨਸ਼ਹ ਹੈ

ਪੰਜਾਬੀ ਉਚਾਰਨ ਅਤੇ ਬੁਧਵਰ ਸ਼ੈਲੀ

ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਸਰਚਰਨਾ (ਵਾਕ, ਸ਼ਬਦ)

ਪੰਜਾਬੀ ਉਚਾਰਨ ਅਤੇ ਗੁਰਮੁਖੀ ਿਲਪੀ

ਸੈਕਸ਼ਨ - ਵੀ

ਕੀਤੀ ਿਲਪੀ ਅਤੇ ਨਰ ਸਾਰਕ ਉਚਾਰਨ

ਸੈਕਸ਼ਨ - ਸੀ

ਰਾਸ਼ਟਰੀ ਧੁਨੀ ਿਲਪੀ ਅਤੇ ਗੁਰਮੁਖੀ ਿਵਚ ਿਲਖਣ ਲੈਕ ਸੈਕਸ਼ਨ - ਡੀ

ਕੀਤੀ ਿਲਪੀ ਅਤੇ ਮੁਖ ਕਾਰਜ

ਸੂਚਨਾ ਤਕਨਾਲੋਜੀ: 

ਮੇਲ
SEMESTER–I

FUNCTIONAL PUNJABI (VOCATIONAL)

(ਪੰਜਾਬੀ ਪੁੱਤਰਾਂ ਦੀਆਂ ਵਿਦਾਰਨ ਬੀ) (Practical)

ਐਮਐਲ-1  ਪੰਜਾਬੀ- ਕੁਲ ਅੰਕ : 50

ਪੰਜਾਬੀ ਬੂਧਨ

ਐਮਐਲ-ਦੇ ਸਾਹਿਤ-ਸੰਘਿਕ ਅਨਦੋਲਣ ਦਾ ਪ੍ਰਦਰਸ਼ਨ

ਐਮਐਲ-ਦੀ ਨੂੰ ਰਾਹ ਵਧਾਉਣ ਦਾ ਅਭਿਆਸ

ਐਮਐਲ-ਸੀ ਹਵਾ ਅਲੀ ਦਾ ਦੁਆਰਾ ਵਧਾਉਣ ਦਾ ਅਭਿਆਸ

ਐਮਐਲ-ਸ੍ਰੀ ਵਿਗਿਆਨ-ਤਥਾ ਪ੍ਰਸਿੱਧੀ ਦੇ ਸਾਮਾਨਸਕ ਮੁਖ ਦਾ ਅਕਸਰ ਵਧਾਉਣਾ

ਰਾਹਤੀ ਹੁਣ ਵਿਦਕਰ ਦੀ ਸਤਕਾਰਤਾ

ਰਾਹਤੀ ਪੁੱਭਾ ਦੀ ਸਵਾਗਤ ਵੇਖਦੀ ਅਤੇ ਤਦ੍ਰਿਸ ਕੀਤੀ
SEMESTER–I
PHYSICAL EDUCATION
(THEORY)

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

Instructions for the Paper Setters:-

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

SECTION–A
2. Aims and Objectives of Physical Education.
3. Relationship of Education and Physical Education.

SECTION–B
4. Biological Principles:
   (a) Growth and Development
   (b) Age and sex differences
   (c) Effects of heredity and environment on growth and development.
   (d) Chronological age, physiological age, Anatomical age and Mental age.
5. Body types.

SECTION–C
   (a) Pre–Independence
   (b) Post– Independence
   (c) Sports Schemes in India
      (i) N.S.N.I.S.
      (ii) Sports Authority of India.
      (iii) Punjab Sports Department.

SECTION–D
7. Olympic Games:
   (a) Ancient Olympics.
   (b) Modern Olympics.
8. Commonwealth Games
9. Asian Games
SEMESTER–I
PHYSICAL EDUCATION (PRACTICAL)

Marks: 40

Division of Marks: Athletics (12) + Games (12) + Ground Markings (3+3), Practical Note Book (5), Viva–Voce (5)

- **Athletics Performance** ———— 100M, Shot–put for Boys
  100M, Shot–put for Girls

- **Games (Boys & Girls)** —— Fundamentals, Rules, Performance
  Volleyball
  Cricket

Suggested Readings: