SYLLABUS

FOR

B.A./B.Sc.
(12+3 SYSTEM OF EDUCATION)
(Semester–VI)

Examinations: 2019–20

GURU NANAK DEV UNIVERSITY
AMRITSAR

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SEMESTER–VI

POLITICAL SCIENCE
INTERNATIONAL POLITICS: THEORY AND PRACTICE

Time: 3 Hours

Max Marks: 100

Instructions for the Paper Setter:

Section–A: The examiner shall set 10 short answer type questions covering entire syllabus and the candidates will have to attempt 8 questions of 2 marks each. Answer to each question shall be approximately of 50 words. The total weightage of this section shall be 16 marks.

Section–B: The examiner shall set 8 questions, by selecting 2 questions out of each unit. The candidate shall attempt any 6 questions in all by selecting at least one question from each unit. Each question shall carry 14 marks. The total weightage of this section shall be 84 marks.

Unit–I
2. Realist and Idealist Approaches to International Politics.

Unit–II
1. National Power: Its Elements
2. System of Balance of Power and Collective Security

Unit–III
1. Cold War and Post Cold War era of International Politics.
2. Emerging World Order and Multipolarity
3. Terrorism in global context: Its emergence and consequences

Unit–IV
1. Regional Organisations: SAARC and EU.
2. UNO: Principles, aims, objectives and its work.

Recommended Books:


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

SEMESTER–VI  
HISTORY  
History of the Punjab (1799-1966)

Time: 3 Hours  
Max. Marks: 100

Note: The question paper will consist of two sections as follows:-

Section–A:  
The examiner shall set 10 short answer type questions covering entire syllabus and the candidates will have to attempt 8 questions of 2 marks each. Answer to each question shall be approximately of 50 words. The total weightage of this section shall be 16 marks.

Section–B:  
The examiner shall set 8 questions, by selecting 2 questions out of each unit. The candidate shall attempt any 6 questions in all by selecting atleast one question from each unit. Each question shall carry 14 marks. The total weightage of this section shall be 84 marks.

UNIT–I
1. The Establishment and Expansion of Ranjit Singh’s Kingdom: Political condition of the Punjab in the 1790s; Conquests of the Sikh principalities; Subjugation of the Satlej-Jamuna Divide and British intervention; Subjugation of the hill principalities; annexation of Afghan dependencies; Policy towards the defeated rulers; Extent of the kingdom in 1839.
2. Administrative Organization of the Kingdom of Lahore: Central, Provincial and local administration; Land revenue system. Jagirdari system, Dharmarth grants; Judicial administration; Military organization; state policy towards agriculture, Manufacture and trade.

UNIT–II
3. Annexation and After: First Anglo-Sikh War; Second Anglo-Sikh War; British administration 1845-1856; Agricultural development.
4. Socio-Religious Reform Movements in the late–Nineteenth Century: Christian evangelicals; the Arya Samaj; The Nirankaris and the Namdhariis; the Singh Sabhas and the Ahmadiyas.

UNIT–III
5. Early Nationalist Activities: The Ghadar movement; Rowlatt Satyagrahs and the Jallianwala Bagh; Non-Cooperation Movement; Hindustan Socialist Republican Army and Naujawan Bharat Sabha; Civil Disobedience and Quit India Movement.
6. Gurdwara Reforms and the Akalis: Causes of the movement for reform; Central Sikh League; SGPC and the Shiromani Akali Dal ; Major Morchas ; Gurdwara legislation.

UNIT–IV
7. Towards Partition: Communal politics; Sikander–Jinnah Pact; Lahore Resolution of the Muslims League; Cabinet Mission Plan; Mountbatten Plan and Partition.

Suggested Reading:
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–VI) (Session 2019-20)  
(Faculty of Arts & Social Sciences)

SEMESTER–VI  
JOURNALISM AND MASS COMMUNICATION (VOCATIONAL)

PUBLIC RELATIONS  
(THEORY)

Time: 3 Hours

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

Instructions for the Paper Setters:

Section–A shall consists of 10 questions carrying 2 marks for each question. All questions will be compulsory. Each question will carry 2 marks with the total weightage of section being 20 marks.  
10x2=20

Section–B shall consists of 10 questions. Candidates will be required to attempt any 8 questions. Each question will carry 5 marks. The total weightage of this section being 40 marks.  
8x5=40

Section–C shall consists of 4 questions. Candidates will be required to attempt any 2 questions. Each question will carry 10 marks. The total weightage of this section being 20 marks.  
10x2=20

PR-Definition, Concept and Role, Qualities of a PR person, Publics, PR in public & private sector  
Difference between PR & Advertising, Various PR Organisations, Organising a Press, Conference,  
Various tools of PR, Writing Press, Releases and reports, Need for PR; Objectives, Code of Ethics  
Crisis management  
Public Relations Society of India  
Event Management

(PRACTICAL)  
(20 Marks)

1. PR report of an organisation/industry etc. organise an event of the institution  
2. Preparing the PR report of an organization.  
3. Organizing an event of institution.
MASS COMMUNICATION & VIDEO PRODUCTION (VOCATIONAL)
VIDEO ELECTRONIC FILM PRODUCTION

Time: 3 Hours

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

Instructions for the Paper Setters:

Section–A shall consists of 10 questions carrying 2 marks for each question. All questions will be compulsory. Each question will carry 2 marks with the total weightage of section being 20 marks. 10x2=20

Section–B shall consists of 10 questions. Candidates will be required to attempt any 8 questions. Each question will carry 5 marks. The total weightage of this section being 40 marks. 8x5=40

Section-C shall consists of 4 questions. Candidates will be required to attempt any 2 questions. Each question will carry 10 marks. The total weightage of this section being 20 marks. 10x2=20

Question paper will be set in English only but the medium of examination will be English, Punjabi and Hindi.

Videoediting
• Meaning
• Need
• Types (Online, Offline, Linear & Non-linear)
• Transitional Devices (Cut, Fade, Dissolve, Mix, Superimposition, Wipe & Montage)

Special Effects
• Audio Special Effects
• Video Special Effects
• Recording Special Effects

Narration
• Meaning and Role
• Writing & Recording Narration

Sound Mixing & Editing
• Basics
• Dubbing
• Studio Mixing
• Laying Tracks
• Pre & Post Production Mixing
Studio & Location Sound Media Appreciation
• Film Review
• Film Criticism
• Film Journalism
• Film distribution & Marketing

PRACTICAL

Practical Marks: 20

Making a minimum of five minute programme (any format) Reading a programme/films.

Recommended Books


Note: Practicals to be conducted by external examiner.
SEMMESTER–VI
SOCIOLOGY
SOCIAL RESEARCH AND SCIENTIFIC METHODS

Instructions for the Paper Setters:
Section–A: The examiner shall set 10 short answer type questions covering entire syllabus and the candidates will have to attempt 8 questions of 2 marks each. Answer to each question shall be approximately of 50 words. The total weightage of this section shall be 16 marks.
Section–B: The examiner shall set 8 questions, by selecting 2 questions out of each unit. The candidate shall attempt any 6 questions in all by selecting at least one question from each unit. Each question shall carry 14 marks. The total weightage of this section shall be 84 marks.

UNIT–I
a) Social Research: Meaning and Functions.
b) Scientific Methods: Nature, Steps and Types-Quantitative and Qualitative.

UNIT–II
a) Design of Social Research: Meaning and Types: Exploratory, Descriptive, Experimental.
b) Sampling and its types.

UNIT–III
a) Methods and Techniques of Data Collection: Observation, Questionnaire, Interview Schedule and Case Study

UNIT–IV
a) Data Analysis: Coding and Tabulation and Report Writing.

Books Recommended:
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–VI) (Session 2019-20)  
(Faculty of Arts & Social Sciences)

SEMESTER–VI

PSYCHOLOGY

ABNORMAL PSYCHOLOGY–II (THEORY)

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

Instructions for the Paper Setters:

The question paper will consist of three sections: A, B and C.

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

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

Section–C: It will consist of essay type questions with answer to each question up to five pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two. Each question will carry 12 marks, total weightage of the section being 24 marks. The questions are to be set to judge the candidates’ basic understanding of the concepts.

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


Personality Disorders: Clinical Features, Types and causal factors in Personality Disorders (Paranoid, Schizoid, Schizotypal, Histrionic, Narcissistic, Antisocial, Boderline, Avoidant, Dependent, Obsessive- Compulsive, Passive Agressive, Self-Defeating & Sadistic.

Antisocial Personality & Delinquency: Clinical Picture, Characteristics, Causes, Treatment & Outcomes.

Schizophrenia: Symptoms, Causes Types and Treatment.

Therapies: Psychodynamic, Behavioural, Cognitive-Behaviour Therapy (Rational Emotive) & Humanistic therapy.

Statistics: Introduction to the concept of Hypothesis, One-tailed and two-tailed tests, Type I and Type II errors, Level of significance, degrees of freedom, Significance of Differences between means (Large sample, correlated and uncorrelated).

Readings:
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:

3. Parenting Scale/Home Environment Scale.
4. EPQ.
6. Rosenweig’s Pictures Frustration Test.
SEMESTER–VI

WOMEN EMPOWERMENT
CONTEMPORARY ISSUES OF WOMEN'S RIGHTS

Time: 3 Hrs. Max. Marks: 100

Instructions for the Paper Setters:

Section–A: The examiner shall set 10 short answer type questions covering entire syllabus and the candidates will have to attempt 8 questions of 2 marks each. Answer to each question shall be approximately of 50 words. The total weightage of this section shall be 16 marks.

Section–B: The examiner shall set 8 questions, by selecting 2 questions out of each unit. The candidate shall attempt any 6 questions in all by selecting at least one question from each unit. Each question shall carry 14 marks. The total weightage of this section shall be 84 marks.

UNIT–I
Legal Provisions against Female Foeticide
1. Medical Termination of Pregnancy Act 1971

UNIT–II
Attrocities against women and legal provisions
1. Indian Penal Code 1860: Rape (Sec. 375 IPC)
2. Types of Rape under IPC
3. Criminal Procedure Act 1976: FIR, Protection in case of arrest, detention of women in police lock up, trial in camera etc.

UNIT–III
Feminism, Woman Rights and Challenges to Patriarchy in India
1. Live in Relationship
2. Single Parenthood
3. Surrogacy and Adoption

UNIT–IV
Women in globalized era
2. Women and New Employment opportunities:-
   Army, Space and Research
3. Women and Entrepreneurship, Media and ICT (Information and Communication Technology).
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–VI) (Session 2019-20)
(Faculty of Arts & Social Sciences)

SEMESTER–VI

DEFENCE AND STRATEGIC STUDIES

REGIONAL SECURITY AND COOPERATION
(THEORY)

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

Instructions for the Paper Setters:

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

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

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

Stencil outline maps are allowed

UNIT–I

i) Theoretical dimensions of ‘Region’ in International Relations.


UNIT–II


UNIT–III

i) Association of South-East Asian Nations-(ASEAN): Concept, Objectives, Features, Problems & Achievements.

UNIT-IV

i) South Asian Association for Regional Cooperation- (SAARC):
   a) Concept, Objectives, Features.
   b) Problems & Achievements.

ii) BRICS: Organization, Objectives, Functions.

Suggested Readings:

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

SEMESTER–VI

DEFENCE AND STRATEGIC STUDIES

(PRACTICAL)

Time: 3 Hours
Teaching Hours: 3 Periods a Week
Written: 1 Hour
Discussion: 05
Record and Viva: 05

Total Marks: 20
Written: 10
Discussion: 05
Record and Viva: 05

Note: The paper for written test is to be given by the external examiner on the spot. Internal examiner has to assist him in the conduct of the examination.

Group–A

1. Tactical, Formations–Section and Platoon and company.
2. Verbal orders
3. Patrol - Types and stages of patrolling

Group–B: Group Discussion (Topics)

(a) India’s Internal Security problems.
(b) Confidence bulding measures between India and Pakistan.
(c) Environmental Security

Group–C

Record and Viva–Voce

05 Marks

05 Marks
SEMESTER–VI
GEOGRAPHY

GEOGRAPHY OF INDIA
(THEORY)

Time: 3 Hours

Max. Marks: 100
Theory Marks: 70
Practical Marks: 30

Objectives
To foster comprehensive understanding of physical, human and economics resource base of India.

Note: Instructions for the paper setters and candidates
1. A compulsory question on map on India will be set covering the whole syllabus. This question will have 15 parts. The students will attempt any 10 parts in about 15-20 words each. Each part will carry 3 marks (total 30 marks). (Location and Explanation).
2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, 2 from each unit. The students will be required to attempt four questions selecting one question from each unit. These will be in addition to compulsory question at serial number one.
3. Examiner have to send a specimen copy of the outline map of India to be distributed to the student
4. Stencil/outline map and coloured pencils are allowed.

Course Content

UNIT–I
India in the context of South Asia, Asia and the World. Relief, drainage, climate: Mechanism of Indian Monsoon, vegetation and soils.

UNIT–II

UNIT–III
Agriculture-Characteristics of Indian agriculture; land use pattern, irrigation, major crops (rice, wheat, sugarcane, cotton, jute, tea, groundnut), areas of surplus and deficit food production, problems of Indian agriculture.

UNIT–IV
Industries-Distribution and localization factors of major industries (iron and steel, cotton textiles, sugar, fertilizers, cement), role of the public sector in Indian economy. Transport: Rail, Road, airways and waterways; International Trade.
Books Recommended:

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

SEMESTER–VI

GEOGRAPHY

MAP PROJECTIONS-II AND FIELD WORK
(PRACTICAL)

Max. Marks: 30
Written Paper of 3 Hours: 15 Marks
Practical Record (File): 08 Marks
Viva: 07 Marks

Objectives:
• To Provide an analytical understanding of use of common map projections.
• To acquaint the students with the importance of field work as one of the methodologies in geography.
• To sensitize the students about pre-field work and post-field work i.e. data processing and analysis and writing of field work report.

UNIT–I
Construction, Properties and Limitations of following Map Projections:
Zenithals: Gnomonic, Stereographic, Orthographic, Equi-distant and Equal- Area (Polar cases only).
Introduction to Sinusoidal and Molleweide’s Projections.
General principles of identification and choice of projections

UNIT–II
Role of field work in Geography.
Scale of study and field work methodology.
Methods of collecting Primary data (questionnaire, observation, interview and measurement) and Secondary data and parts of report.
Methods of field study of: a Farm, a Village, a Town and Physical Features of an area.

Note:
1. A compulsory question containing 10 short answer type questions will be set covering the whole syllabus. The students will attempt 6 short answer type questions in about 25–30 words each. Each short answer type question will carry ½ mark (Total 3 marks).
2. The whole syllabus will be divided into 2 UNITs. Eight questions will be set out of the whole syllabus, four from each UNIT. The students will be required to attempt two questions from each UNIT. Each question will carry 3 marks. These will be in addition to the compulsory question at serial number 1. (Total 12 marks)
3. Evaluation of Practical record will be done at the time of viva–voce examination.
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.
Books Recommended:

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

SEMMESTER–VI
PUBLIC ADMINISTRATION

DEVELOPMENT ADMINISTRATION
(With Special Reference to Punjab)

Time: 3 Hours
Max. Marks: 100

Section–A: The examiner shall set 10 short answer type questions covering entire syllabus and the candidates will have to attempt 8 questions of 2 marks each. Answer to each question shall be approximately of 50 words. The total weightage of this section shall be 16 marks.

Section–B: The examiner shall set 8 questions, by selecting 2 questions out of each unit. The candidate shall attempt any 6 questions in all by selecting atleast one question from each unit. Each question shall carry 14 marks. The total weightage of this section shall be 84 marks.

UNIT–I
Introduction:
Development Administration–Meaning, Scope and Significance. Main features of Development Administration in India. Features of Developed and Developing Countries. Mixed Economy Model & its Rationale and Significance.

UNIT–II
Planning Machinery:

UNIT–III
Public Sector and Development:

UNIT–IV
Social Welfare and Development:

Suggested Readings:
SEMMER–VI
OFFICE MANAGEMENT & SECRETERIAL PRACTICE (VOCATIONAL)
STENOGRAPHY IN ENGLISH
(THEORY)

Time: 3 Hours

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

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

(6x2=12 Marks)

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

(4x12=48 Marks)

UNIT–I
Typing
Manuscripts:
Proof correction-signs and their meaning, process of typing manuscripts, corrections of drafts.
Tabulations:
Definition and importance, part of tabulation, procedure for typing, tabulation, typing of book-notes, typing of balance sheet.
Syllabification of Combination:
Rules for division of words at line ends, exceptions, formation of special sign with combination of characters.
Correspondence:
Typing with proper display
Typing of business letters
Typing of official letters

UNIT–II

UNIT–III

UNIT–IV

Shorthand
Advanced phraseography, phraseology related to business, banking, insurance and administration. Special list of words.

Arrangement of materials on typewriter desk to facilitate transcription.
Checking and proof reading transcription.
SEMESTER–VI

OFFICE MANAGEMENT & SECRETARIAL PRACTICE (VOCATIONAL)

(PRACTICAL) Marks: 40

Typing
Manuscripts
Typewriting of Manuscripts (typed).
Typewriting manuscripts (handwritten).
Practice on carrying out corrections of drafts.

Note:- Computer facilities to do practical on computer.

Tabulations
Typewriting of tabulations, balance-sheet, invoices, foot notes.

Syllabification and Combination:
Typewriting exercises breaking of words at line ends, breaking of words with syllabification rules, typewriting of characters not existing on key boards.

Correspondence:
Typewriting unarranged, misspelt and wrongly-typed letters by observing the rules of display.
Typewriting of business, official letters.

Shorthand
1. Taking information from other documents in completion of short hand notes.
2. Office style dictation with amendments.
4. Marking and filing of shorthand notices after completion of transcription.

Recommended Drills:
Throughout the course, there should be a constant emphasis on:
Fluency in shorthand, special care should be taken to expose students to variety of pronunciation.
Formation of well constructed shorthand outlines with the help of facility drills.
Auto mobilisation of grammalogues and phrases.
Daily practice in taking dictation starting at slow speed.
Practice in transcribing the long hand.
Dictation each day should be on practice material to increase the speed and on new matter to improve competence. it should be for timings of 1,3,5,7 and 10 minutes.
Probable work-sites where on the job training may be organised.
Government department offices.
Business/commercial organisation.
Industrial establishments.
Hospitals.
Educational institutions.
Railways, airlines and other transport undertakings.
Banking and insurance organization.
Parliament and state assembly.
Job work centres

This is a tentative list. Principal may be given the complete freedom to select any organistaion. However, while selecting the institution, care should be taken to select such institution who show willingness to accept the trainees and have the scope for providing variety of experiences in office practice and stenography area. Suggested Department/Section for On-the-Job Training’ at the end of first year:
Department/Section | No. of weeks
---|---
1. Reception/inward and outward mail | 1
2. Office establishment/filing/office equipment and production | 1
3. Stenography work and typing with various executives and sections. | 1
4. Sales, advertising and publicity, stores and | 4 weeks

Suggested Department/Section for ‘On-the-Job Training’ at the end of second year.

Department/Section | No. of weeks
---|---
1. Private Secretaries of various executives in different departments of the organisation | 1
2. Office establishment/company secretary/share department | 1
3. Accounts department/time office/reception | 1
4. Typing pool/advertising /publicity | 1

4 Weeks

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

Suggested Reading Materials:

(a) Short Hand

<table>
<thead>
<tr>
<th>Title</th>
<th>Publisher:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pitman Shorthand Dictionary</td>
<td>A.H. Wheeler&amp; Company</td>
</tr>
<tr>
<td>Pitman Shorthand Reading and Dictation Exercises Delhi</td>
<td>Pitman Shorthand School, New Delhi</td>
</tr>
<tr>
<td>Pitman Shorthand Reading and Dictation Exercises Delhi</td>
<td>Pitman Shorthand School, New Delhi</td>
</tr>
<tr>
<td>James W.M. Tylor A Commentary on Pitman Shorthand</td>
<td>O.P. Kuthiall</td>
</tr>
<tr>
<td>Shorthand made easy for beginners with key</td>
<td>–do– &amp; Edger Thrope</td>
</tr>
<tr>
<td>How to start shorthand Speed building</td>
<td>–do–</td>
</tr>
<tr>
<td>How to avoid confusion in outline in pitman shorthand</td>
<td>–O.P. Kuthiall</td>
</tr>
<tr>
<td>A Comprehensive List of Gramalongoaus &amp; Contractions</td>
<td>–O.P. Kuthiall</td>
</tr>
</tbody>
</table>

(b) Type Writing:

<table>
<thead>
<tr>
<th>Title</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typewriting by Md.Khan Dictation Exercises</td>
<td>Chittoor Publishing House, Chittoor, A.P.</td>
</tr>
<tr>
<td>Layouts and Forms in Typewriting</td>
<td>State Board of Technical Education, Hyderabad-500022.</td>
</tr>
</tbody>
</table>
6. 20th Century Typewriting  
   South-Western Publishing Company, Gincinati, Ohio, USA.
7. Typewriting Drills for Speed and Accuracy  
   Gregg. Publishing Corporation, USA.
8. Principle of Typewriting  
   O.P. Bhatia, S.S. Sangal.
9. Typewriting Speed & Accuracy  
   O.P. Kuthials & Thorpe
10. Typewriting Theory & Practicle  
    R.C. Bhatia
11. Typewriting speed & Accuracy-B-I.  
    O.P. Kuthiall
12. -do- B-II  
    -do-

(c) Office Practice
1. Office Practice Made Simple  
2. Office Management and Commercial Correspondence  
   By Balraj Duggal, 2005.
3. Office Management and Secretarial Practice  
   By V.P. Singh, Gyan Publishing House, Delhi.
4. Business Correspondence and Office Practice  
   By Nagamia and Bhal Thakkar Publication, Bombay
5. Office Procedure and Secretarial Practices  
   D.P. Katuria-Pitman Publications
6. Office Management  
7. Office Management  
8. Drafting & Office Procedure  
   Edgen Thrope.
9. Office Practice Made Simple  
   By Geoffrey Whitehead Published by WH Allen, 1974.
10. Modern Office Management  
11. Office Management  
SEMINAR–VI
TRAVEL & TOURISM
EXPLORING TOURISM IN PUNJAB

Time: 3 Hrs.                                Max. Marks: 100

Instructions for the Paper Setters:

The Theory paper consists of two Parts A and B (short questions and long questions).

Part–A: The examiner will set 12 short questions, 3 questions from each section of 02 marks each.

The candidate will have to attempt 10 questions out of 12 questions.

(10x02=20 Marks)

Part–B: The examiner will set 8 long questions, 2 questions from each section of 20 marks each.

The candidate will have to attempt 4 questions out of 8 questions.

(04x20=80 Marks)

UNIT–I

Chapter 1. Understanding Geography of Punjab:

Topography, river system, climate, flora and fauna,

Historical impact on the life of the people

Chapter 2. Gardens, Wetlands and Wildlife

Bara Dari Patiala, Aam Khas Bagh (Sirhind), Harike wetland, Chhatbir Zoological Park (Zirakpur), Kansal Forset Reserve (Chandigarh)

UNIT–II

Chapter 3. Ancient Medieval Landscapes of Punjab

Ropar as a Centre of Harappan Civilisation
Stupa at Sanghol
Golden Temple, Amritsar
Medieval Serais and Imperial Highways
Chapter 4. Modern Landscapes of Punjab

Amritsar of Ranjit Singh: Ram Bagh and Gobindgarh Fort
Kapurthala Place
Sheesh Mahal, Patiala
Chandigarh as a Modern City

UNIT–III

Chapter 5. Fairs and Festivals

Sikh, Hindu and Muslim Religious Fairs-Diwali, Holla Mohalla (Anandpur Sahib), Dusshera, Lohri, Maghi Mela (Muktsar), Baisakhi at Damdama Sahib (Talwandi Sabo), Urs of Sheikh Mujaddid-Alif-Saani (Sirhind), Religious and Secular Centres-Golden Temple and Akal Takth (Amritsar), Anandpur Sahib (Takth Keshgarh Sahib), Durgiana Temple (Amritsar), Devi Talab (Jalandhar).

Chapter 6. Museums and Memorials

Archaeological Museums at Ropar, Government Museum and Art Gallery and City Museum (Chandigarh), Panorama of Ranjit Singh (Amritsar), Art Gallery at Sheesh Mahal (Patiala), Hussainwala Memorial (Ferozepur), Retreat ceremony at Wagah (Amritsar), Desh Bhagat Yadgaar Hall (Jalandhar), Sikh Museum (Golden Temple, Amritsar), Science City (Kapurthala), Jalianwala Bagh Martyr's Memorial (Amritsar).

UNIT–IV

Chapter 7. Handicrafts and Handlooms

Phulkari, Bagh, Shawla, durees (foor covering), Jutties and Blankets

Chapter 8. Performing Arts

Dance: Bhangra, Gidda, Malwai Gidda, Jhummer, Sammi.
Music-Folk and Classical
Report Writing: Based on site visit/Event organized (Compulsory)
Suggested Readings:


www.punjabgovt.nic.in
punjabtourism.gov.in
chandigarhtourism.gov.in
SEMIESTER–VI

TOURISM AND HOTEL MANAGEMENT (VOCATIONAL)

Time: 3 Hours.                                  Max. Marks: 100
                                              Theory Marks: 80
                                              On the Job Training Marks: 20

Instructions for the Paper Setter:

The following pattern of setting of question paper shall be observed. The question paper covering the entire course shall be divided into three sections as follows:

Section–A: This section will consist of 7 very short answer type questions with answers to each question upto 5 lines. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 14 marks.

Section–B: This section will consist of short answer type questions with answers to each question upto two pages. Nine questions will be set by the examiner and the candidates will be expected to attempt six questions. Each question will carry six marks; total weightage of the section being 36 marks.

Section–C: This section will consist of essay type questions with answer to each question upto 5 pages. Four questions will be set by the examiner and the candidates will be expected to attempt two questions. Each question will carry 15 marks, total weightage of the section being 30 marks.

UNIT–I

Interdisciplinary approach of tourism, infrastructure and superstructure for tourism-special emphasis on Indian hospitality industry
Tourism planning and development, demand and supply in tourism

UNIT–II

Tourism master plan
Destination development and destination marketing
UNIT–III

Economic, Social and Political consideration of tourism
International tourism organization:
  - W.T.O.
  - PATA
  - IATA

UNIT–IV

Tourism in 21st century,
Impact of globalization and the era of information technology and other future trend in tourism industry Tourism pollution

Students has to go for two months of specialized industrial training in a travel agency or in a hotel.

Specialized industrial training of 8 weeks

The final year students are supposed to undertake practical training either in a hotel or a travel agency for at least two months. The project report will be submitted to college before examination and will be evaluated by external examiner. The internal assessment shall be based on periodical tests, written assignment and behaviour in the class.

Reference Books:

SEMMESTER–VI

TAX PROCEDURE AND PRACTICES
CUSTOMS ACT

Time: 3 Hours Max.  
Max. Marks: 100

Note: The following pattern of setting of question paper shall be observed: Instructions for the Paper Setters: The question paper covering the entire course shall be divided into three sections as follows:-

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

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

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

UNIT–I

1. Role of Customs in International Trade.
2. Organisation of customs in India-Administrative and Operational Authorities.
Important terms and Definitions
Assessable value baggage, bill of entry, bill of exports, suitable goods, duty, exporter, foreign going vessel, aircraft goods, import, import manifest, importer, prohibited goods, shopping bill, stores, bill, stores bill of landing, export manifest, DOB, FAS, CIF, GATT, Letter of Credit.

4. Kinds of duties—basic, Auxiliary, additional or countervailing; basis of levy—advalorem, specified duties.
5. Prohibition of exportation and importation of goods and provisions regarding notified and specific goods.

UNIT–II
6. Import of goods—free import and restricted import; Types of restricted import—prohibited goods, canalised goods, import against licensing; Types of import—import of cargo, import of personal baggage, import of stores;
Import of cargo— (a) import by land, sea or air route
(b) by post
Clearance procedure - For home consumption, for warehousing exbond clearance; Steps and documents to be prepared and filed, viz. bill of entry-
-Form No. 22 bill of entry for home consumption
-Form No. 23 bill of entry for warehouse.
-Form No. 24- Shipping bill for exbound clearance for home consumption and other accompanying document.
Clearance procedure for Import by post
Clearance of baggage—Import of baggage—meaning and kinds of baggage; rules and procedure of import thereof general passenger, tourist passenger and transfer of residence passenger; (Form No. 37-Form for baggage declaration).
7. Export of Goods—Free Export and Restricted Exports; Types of Restricted Exports—Prohibited Exports, Canalized Exports, Exports Against Licensing; Types of Exports—Export of cargo; Export of Baggage; Types of Exporters-Manufacturer Exporter and Merchant Exporter;
Export of Cargo— (a) By Land, Sea and Air Route
(b) By Post
UNIT–III

Clearance Procedure - Procedure and Filing & Filing of Relevant Documents

Form No.94- Shipping Bill for Export of Suitable Goods.

Form No.95- Shipping Bill for Export of Duty Free Goods.

Form No.96- Shipping Bill for Export of Duty Free Goods Exbond.

Form No.98- Bill for Export of Dutyable Goods.


Form No.100-Bill for Export for Export of duty free goods ex-bond.

UNIT–IV

Duty drawback - Meaning/Scheme, procedure and documentation thereof

Form No.93- Shipping Bill for Export of Goods under claim for duty Drawback.

Form No.97- Bill of Export for Export of Goods under claim for Duty Drawback.

References:


'ON THE JOB TRAINING' OF 4 WEEKS

Periods/week: T  L
3     3

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

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

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

Suggested Readings:


The following pattern of setting of question paper shall be observed.

**Instructions for the Paper Setters:**

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

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

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

**UNIT–I**

Nature and Importance of sales promotion its role in Marketing, Forms of sales promotion: Consumer oriented sales promotion, Trade - oriented sales promotion and sales force oriented sales promotion.

**UNIT–II**

Major tools of sales promotion: Samples point of purchase, displays and demonstrations. Exhibitions and Fashion shows, sales contests and games of chance and skill, lotteries, gifts, offers, premium and free goods. Princepacks, rebates, patronage, rewards. Conventions, conference and tradeshows, specialities and novelities.
UNIT–III

Developing and sales promotion programmes, pre-testing implementing, evaluating the results and making necessary modifications.
Public relations: Meaning, features, growing importance, role in marketing, similarities of publicity and public relations.

UNIT–IV

Major tools of public relations: News, speeches, special events, handouts and leaflets, audio-visual, public service activities miscellaneous tools.
Ethical and local aspects of sales promotion and public relations.

Suggested Readings:

SEMESTER–VI

COMMERCE

BUSINESS LAWS

Time: 3 Hours
Max. Marks: 100

Note: i) The candidates are allowed to use simple (Non-Scientific) Calculators.
   ii) The question paper covering the entire course shall be divided into three sections as follows:

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

Section–B: It will consist of short answer questions with answer to each question up to two pages in length. Twelve questions will be set by the examiner and eight will be attempted by the candidates. Each question will carry 6 marks; total weightage of the section being 48 marks.

Section–C: It will consist of essay type questions with answer to each question up to five pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two. Each question will carry 16 marks; total weightage of the section being 32 marks.

UNIT–I

Law of contract including contract of indemnity guarantee, bailment, pledge and agency

UNIT–II

Law of sales of goods

UNIT–III

Law of negotiable instruments.

UNIT–IV

The Punjab shops and commercial establishment act, 1959. Introduction to GST.

Suggested Readings:

TOURISM AND TRAVEL MANAGEMENT (VOCATIONAL)

INFORMATION, COMMUNICATION & AUTOMATION

Time: 3 Hours

Max. Marks: 100
Theory Marks: 50
Viva: 50

Viva-Voce will be conducted by the external examiner which will be based on ‘On the Job-Training’ undertaken by student and report prepared during ‘On the Job-Training’.

Instructions for the Paper Setters:

Section–A: It will consist of 10 questions from the entire syllabus of the paper with answer to each question should up to 50 words. Students will be required to attempt any 5 questions. Each question will carry 2 marks. This section will be of 10 marks.

Section–B: It will consist of 8 essay type questions, 4 from each unit with answer to each question should up to 5 pages. Students will be required to attempt any 4 questions. Each question will carry 10 marks. This section will be of 40 marks.

Part–I

- Consumer expectation and services & legislation.
- National tourism civil aviation & policy.
- Information Technology.
- Computerised Reservation System:-Introduction to CRS, Components of CRS, Need of CRS
Part–II

- Data collection
- Consortiums of airline hotel & wholesalers
- Communication:-Meaning, Importance, Types of Communication, Barriers to effective communication.

Suggested Readings:

3. Reports of World Tourism Organisation.
SEMESTER–VI
ECONOMICS

QUANTITATIVE METHODS FOR ECONOMISTS

Time: 3 Hours
Max. Marks: 100

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

UNIT–I
Sets, Relations and functions, Limits and continuity (Basic concepts), Derivative of simple functions only (excluding log & exponential functions). Maxima/Minima for single variable functions. Introduction to matrices - definition, properties & inverse.

UNIT–II
Measures of central tendency — Mean, Mode, Median and Geometric Mean; Measures of dispersion.

UNIT–III
Concepts and Measure of skewness and kurtosis: Boyle’s & Karl Pearson’s measures. Simple correlation & regression (ungrouped & grouped data).

UNIT–IV
Interpolation: Concepts and Methods — Binomial expansion, Newton and Lagrange’s Method (with emphasis on missing values only). Price Index Numbers—Weighted and Unweighted Index Numbers, various formulae and consistency tests.

Suggested Readings:
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–VI) (Session 2019-20) (Faculty of Economics & Business)

SEMESTER–VI

INDUSTRIAL ECONOMICS–VI

Time: 3 Hours Max. Marks: 100

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

UNIT–I

Industrial Finance: Meaning, Scope, Objectives and Functions; Sources and Methods of Industrial Finance: Internal and External Sources; Short and Long Term Finance.

UNIT–II

Financial Institutions-Commercial Banks; Finance Corporation and Industrial Development Banks.

UNIT–III


UNIT–IV

Bank and Non-Bank Finance; Venture Capital; Foreign Investment and Stock Market Prices and Operations and Role of SEBI.

Recommended Texts:
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–VI) (Session 2019-20) (Faculty of Economics & Business)

SEMESTER–VI

QUANTITATIVE TECHNIQUES–VI

Time: 3 Hours

Max. Marks: 100

Instructions for the Paper-Setters/Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (Each Carrying 2 Marks)) will be compulsory.

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

SECTION–A
Definition, Scope and Nature of Econometrics. Simple Linear Regression Model (OLS method) with applications.

SECTION–B
General Linear Regression Model, assumptions, properties (BLUE).

Gauss-Markov Theorem, Concepts of $R^2$ and $\bar{R}^2$, Test of Significance (Stress on Numericals).

SECTION–C

SECTION–D

Books Recommended:
SEMESTER–VI

AGRICULTURE ECONOMICS & MARKETING

AGRICULTURAL MARKETING–III

Time: 3 Hours

Max. Marks: 100

Instructions for the Paper-Setters/Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (Each Carrying 2 Marks) will be compulsory.

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

UNIT–I

Marketing Research—Meaning, Scope, Importance and Techniques.

UNIT–II

Marketing of Major Agriculture Commodities, Foodgrains, Cash Crops, Milk and Poultry.
Marketing of Agricultural Input—Fertilizers, Pesticides and Agricultural Machinery.

UNIT–III

Concept of Physical Distribution—Role of Public distribution in India, Performance and Evaluation of public distribution system in India.

UNIT–IV

Agreement on Agriculture under WTO, Pre and Post WTO Agricultural Trade, Sanitary and Phyto-
Sanitary Measures on Agriculture, Impact of WTO on Indian Agriculture.

Recommended Readings:

1. Philips, Kotler, Marketing Management Analysis Planning and Control.
2. Gandhi, J.C., Marketing and Managerial Introduction.
SEMESTER–VI
RURAL DEVELOPMENT–VI
(THEORY)

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

Instructions for the Paper-Setters/Examiners:
(i) First question consisting of 10 short answer type based upon the entire syllabus, (Each Carrying 2 Marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (15 marks each).

UNIT–I

UNIT–II
Fishery: Scope of Fishery, Species and Culturing of Fish, Management, Feeding, Diseases, Marketing, Economics of Fishery.

UNIT–III
Bee Keeping: Scope of Bee-Keeping, Equipment needed, Species, Diseases, Economics of Bee Keeping.

UNIT–IV
Note: Six periods per week will be devoted to both theory and practicals. Candidates are expected to have practical knowledge about dairy, poultry, piggery, bee keeping, time and energy management, food and nutrition etc.

Suggested Readings:

2. Punjab Agriculture Books on Dairying, Fishery and University, Ludhiana Bee Keeping.
SEMESTER–VI
MATHEMATICS

PAPER–I: LINEAR ALGEBRA

Time: 3 Hours  Marks: 50

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

Section–A

Definition of groups, rings and fields with examples. Definition of a vector space, subspaces with examples. Direct sum of subspaces. Linear span, Linear dependence, Linear independence of vectors. Linear combination of vectors, Basis of a vector space, Finitely generated vector spaces. Existence theorem for basis. Invariance of the number of elements of the basis set. Dimension of sum of two subspaces. Quotient space and its dimension.

Section–B


Books Recommended:

SEMESTER–VI
MATHEMATICS

PAPER–II: NUMERICAL ANALYSIS

Time: 3 Hours
Marks: 50

Instructions for the Paper Setters:

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

Section–A


Section–B


Books Recommended:

2. A. Maritava Gupta and Subash Ch. Bose: Introduction to Numerical Analysis.
SEMESTER–VI
STATISTICS

PAPER–I: ECONOMIC STATISTICS

Time: 3 Hours  Marks: 35

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

Section–A

Introduction to index number, problems in the construction of index numbers, Laspyeres, Passche’s, Drobish-Bowley, Walsh Marshal-Edgworth and Fisher's formulae for index numbers, errors in index numbers, various tests for the criterion of a good index numbers, chain index number, cost of living index numbers, uses of index numbers.

Section–B

Introduction of time series, the four components of a time series, measurement of secular trend by graphic method, method of semi averages, the method of moving averages and fitting of mathematical curves, measurement of seasonal fluctuations by method of simple averages, ratio to moving average, ratio to trend and link relative methods, measurement of cyclical fluctuations (excluding periodogram analysis).

Book Recommended:
SEMESTER–VI
STATISTICS

PAPER–II: VITAL STATISTICS AND INDUSTRIAL STATISTICS

Time: 3 Hours

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

Section–A


Section–B

Statistical quality control: chance and assignable causes, process and product control, the techniques of control charts for process control, three sigma limits and specification limits. Schewharts Control charts for mean, S.D. and Range, Control Chart for number of defective and fraction defective, control charts for number of defects. Advantages of process control, sampling inspection by attributes for product control, the concept of producer’s and consumer’s risks, AQL, LTPD, AOQL, ASN, ATI and OC functions and curves, single and double sampling plans and their properties.

Book Recommended:
SEMESTER–VI
STATISTICS

PAPER-III: - Practical based on PAPER–I: ECONOMIC STATISTICS and
PAPER–II: VITAL STATISTICS AND INDUSTRIAL STATISTICS

Time: 2 Hours Marks: 30
Teaching time for practical paper would be one hour per week.

List of practical exercises

1. Exercises on construction of index numbers: Laspyere’s, Passche’s, Drobish-Bowley’s, Walsh Marshal-Edgworth’s, Fisher’s
2. Exercises on measurements of secular trend using graphic method, semi averages method, curve fitting method and moving average method
3. Exercises on fitting of various mathematical curves using least square principle
4. Exercises on measurements of seasonal fluctuations using simple average method, ratio to trend method, ratio to moving averages, and link relative method
5. Exercises on measurements of mortality: crude death rate, specific death rate, standardized death rate
6. Exercises on measurements of fertility: crude birth rate, general fertility rate, specific fertility rate, total fertility rate
7. Exercises on measurements of population growth: Crude rate, gross reproduction rate, net reproduction rate
8. Exercises on construction of three sigma limits of control charts for mean, standard deviation, and range
9. Exercises on construction of three sigma limits of control charts for number of defective, fraction defective, and number of defects.

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

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

CHEMISTRY (ORGANIC CHEMISTRY– A) (THEORY)

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

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

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

\[8 \times 1 = 8 \text{ Marks}\]

Part–B :-
It shall consist of three sections (Section 1, II & III). It shall consist of 9 questions (Q. Nos. 9 to 17) from the entire syllabus. Each question will consist of 3 questions from each Unit of syllabus. The maximum length of each question may not exceed 5 pages. The candidate will attempt two questions from each section. Each question will be carrying 4½ marks.

\[6 \times 4\frac{1}{2} = 27 \text{ Marks}\]

Section–I

1. Spectroscopy
Nuclear Magnetic Resonance (NMR) spectroscopy.
Proton Magnetic Resonance (1H NMR) spectroscopy,
nuclear shielding and deshielding, chemical shift and molecular structure, spin-spin splitting and coupling constants, areas of signals, interpretation of PMR spectra of simple organic molecules such as ethyl bromide, ethanol, acetaldehyde, 1,1,2-tribromoethane, ethyl acetate, toluene and acetonophenone.

2. Electromagnetic Spectrum: Absorption Spectroscopy
Ultraviolet (U.V.) absorption spectroscopy introduction-(Beer-Lambert law), molar absorptivity, analysis of UV spectra, types of electronic transitions effect of conjugation. Concept of chromophores and auxochromes, Bathochromic, hypsochromic, hyperchromic, hypochromic shifts-UV spectra of conjugated compounds, Infrared (IR) Absorption spectroscopy-introduction, Hooke’s law, Selection rules, intensity and IR bands, measurement of IR spectrum time characteristic absorption of various fundamental band interpretation of IR spectra of simple organic compounds.

Section–II

3. Problems based on spectroscopy
Problems pertaining to the structure elucidation of simple organic compounds using UV, IR and PMR spectroscopic techniques.

4. Organosulphur Compounds
Nomenclature, structural features, Methods of formation and chemical reactions of thiols, thioethers, sulphonic acids, sulphonamides and sulphaguanidine.

5. **Synthetic Polymers**
(4 Hrs.)
Addition or chain-growth polymerization. Free radical vinyl polymerization, ionic vinyl polymerization, Ziegler-Natta polymerization and vinyl polymers.
Condensation or step growth polymerization. Polyesters, polyamides, phenol formaldehyde resins, urea formaldehyde resins, epoxy resins and polyurethanes. Natural and synthetic rubbers.

6. **Organic Synthesis via Enolates**
(4 Hrs.)
Alkylation of 1,3-dithianes. Alkylation and acylation of enamines.

**Section–III**

7. **Carbohydrates**
(8 Hrs.)
Classification and nomenclature. Monosaccharides, mechanism of osazone formation, interconversion of glucose and fructose, chain lengthening and chain shortening of aldoses.
Cyclic structure of D(+) glucose. Mechanism of mutarotation.
**Structures of ribose and deoxyribose**
An introduction to disaccharides (maltose, sucrose and lactose) and polysaccharides (starch and cellulose) without involving structure determination.

8. **Amino Acids, Peptides, Proteins and Nucleic Acids**
(7 Hrs.)
Classification, structure and stereochemistry of amino acids. Acid-base behaviour, isoelectric point and electrophoresis. Preparation and reactions of α-amino acids.
Books Suggested:

1. Spectrometric Identification of Organic Compounds by Robert M. Silverstein, Francis X. Webster, David J. Kiemle, David L. Bryce; **Publisher:** Wiley, 1981
SEMESTER–VI
CHEMISTRY (PHYSICAL CHEMISTRY–B)
(THEORY)

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

Marks: 35

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

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

8 X 1 = 8 Marks

Part–B :
It shall consist of three sections (Section 1, II & III). It shall consist of 9 questions (Q. Nos. 9 to 17) from the entire syllabus. Each question will consist of 3 questions from each Unit of syllabus. The maximum length of each question may not exceed 5 pages. The candidate will attempt two questions from each section. Each question will be carrying 4½ marks.

6 X 4½ = 27 Marks

Section–I
1. Quantum Mechanics–I
(15 hrs.)
Black-body radiation, Planck's radiation law, Photoelectric effect, heat capacity of solids, Bohr's model of hydrogen atom (no derivation) and its defects, Compton effect.
de Broglie hypothesis, Heisenberg's uncertainty principle, Sinusoidal wave equation, Hamiltonian operator, Schrodinger wave equation and its importance, physical interpretation of the wave function, postulates of quantum mechanics, particle in a one dimensional box, quantization of energy levels, extension to two and three dimensional boxes, degeneracy.

Section–II
2. Quantum Mechanics–II
(15 hrs.)
Simple harmonic oscillator model of vibrational motion, setting up Schrodinger equation and discussion of solution and wave functions. Rigid rotator model of rotation of diatomic molecules transformation to spherical polar coordinates spherical harmonics and their discussion. Qualitative investigation H-atom, setting up Schrodinger equation, radial and angular part, radial distribution functions of 1s, 2s, 2p, 3s, 3p and 3d.
Section–III

3. Solid State

(8 Hrs.)
X-ray diffraction by crystals. Derivation of Bragg’s Law in Reciprocal space. Determination of crystal structure of NaCl, KCl by use of Powder method; Laue’s method.

4. Photochemistry

(7 Hrs.)

Books Suggested :
15. Inorganic Chemistry, A.G. Sharpe, ELBS.
Duration 3½ Hrs. 6 Period/week
M. Marks: 30

(I) Organic Chemistry Laboratory Techniques

(a) Column Chromatography
   Separation of o & p nitrophenol
   Separation of Leaf pigments from Spinach leaves
   Separation of o & p nitro aniline
   Separation of dyes.

(b) Synthesis of Organic Compounds

   Preparation of p-nitroacetanilide
   Preparation of p-bromoacetanilide
   Green Chemistry Experiment: Preparation of benzilic acid from Benzyl-using green approach.
   Preparation of Methyl Orange, Methyl Red
   Preparation of benzilic acid from benzyl-using green approach

Practical Examination

1) Column Chromatography  07
2) Organic Synthesis       16
3) Viva-Voce              04
4) Note Book              03

Books suggested:

SEMESTER–VI

PHYSICS

PAPER–A: RADIATION AND PARTICLE PHYSICS
(THEORY)

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

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

UNIT–II
Interaction of Radiation and Charged Particles With Matter: Energy loss of electrons and positrons, Positrons annihilation in condensed media, Sopping power and range of heavier charged, derivation of Bethe-Bloch formula, interaction of gamma rays with matter.

UNIT–II
Nuclear Radiation Detection: Gas-filled detectors, proportional and Geiger-Mueller counters, Scintillation detectors, semiconductor detectors, Cherenkov effect, solid state nuclear track detectors, bubble chambers, nuclear emulsions.

UNIT–III
Accelerators: Accelerators, linear accelerators, cyclic accelerators: cyclotron, synchrocyclotron, betatron, electron and proton synchrotron, phase stability, colliding beam machines: introduction to Large Hadron Collider and Fermilab Tevatron.

UNIT–IV
Elementary Particles: Historical introduction, fermions and bosons, particles and antiparticles, Classification of particles, types of interactions, electromagnetic, weak, strong interactions, gravitational interactions, Quantum numbers and conservation laws, isospin, charge conjugation, Introduction to quarks and qualitative discussion of the quark model, high energy physics units.

TUTORIALS: Relevant problems on the topics covered in the course.

Books Suggested:-

1. Basic Ideas and Concepts in Nuclear Physics: K. Hyde
2. Introduction to Nuclear Physics: H.A. Enge
3. Nuclear Physics : I. Kaplan (Addison Wesley)
4. Nuclei and Particles: E. Segre
6. Elementary Particles: I.S. Hughes
SEMESTER–VI
PHYSICS

PAPER–B
ELECTRONICS
(THEORY)

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

Instructions for the Paper Setters:

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

UNIT-I
Concepts of current and voltage sources, p-n junction, Biasing of diode, V-I characteristics, Rectification: half wave, full wave rectifiers and bridge rectifiers, Efficiency, Ripple factor, Qualitative ideas of filter circuits (LC and π filters), Zener diode and voltage regulation, Introduction to Photonic devices (solar cell, photodiode and LED).

UNIT-II
Junction transistor : Structure and working relation between different currents in transistors, Sign conventions, Amplifying action, Different configurations of a transistor and their comparison, CB and CE characteristics, Structure and characteristics of JEFT, Transistor biasing and stabilization of operating point, Voltage divider biasing circuit.

UNIT-III
Working of CE amplifier, Amplifier analysis using h-parameters, Equivalent circuits, Determination of current gain, Power gain, Input impedance, FET amplifier and its voltage gain, Feed back in amplifiers, Different types, Voltage gain, Advantage of negative feed back, Emitter follower as negative feed back circuit.

UNIT-IV
Barkausen criterion of sustained oscillations, LC oscillator (tuned collector, tuned base Hartley), RC oscillators, phase shift and Wein bridge.

Books Suggested:
2. Electronic Devices & Circuits: Millman & Halkias
3. Solid State Electronic Devices: Ben G. Streatman
General Guidelines for Practical Examination:

I. The distribution of marks is as follows:
   i) One experiment 15 Marks
   ii) Brief Theory 5 Marks
   iii) Viva–Voce 5 Marks
   iv) Record (Practical file) 5 Marks

II. There will be one 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.

List of Experiments

i. To trace the B-H curves for different materials using CRO and find the magnetic parameters from these.

ii. To study the stabilization of output voltage of a power supply with Zener diode.

iii. To draw output and mutual characteristics of an FET (Experiments) and determine its parameters.

iv. To set up an oscillator and to study its output on CRO for different C values.

v. To draw the plateau of a GM counter and find its dead time.

vi. To study the statistical fluctuations using GM counter.

vii. To study the absorption of beta particles in aluminium using GM counter and determine the absorption coefficient of beta particles from it.

viii. To study the characteristics of a thermistor and find its parameters.

ix. To study the response of RC circuit to various input voltage (square, sine and triangular).

x. To study logic gates (OR, AND, NOT and NAND)
Instructions for the Paper Setters:

The question paper will consist of five sections A, B, C, D & E. Section A, B, C, D will have two Questions from the respective sections of the syllabus and will be of 12 marks each. Section E will consist of short type questions covering the entire syllabus uniformly and will be of 12 marks.

Instructions for the Candidates:
Candidates are required to attempt one question each from section A, B, C, D and section E is compulsory

Section–A

1. **Food Adulteration:**
   1. Definition
   2. Common Adulteration
   3. Food standards

2. Concept of balanced diet.
3. Classification of food based on the five/seven food groups.
4. Principles of Meal planning.

   a) **Planning of Balanced Diets for the Middle Income Group for the following:**

   1. Pre-school children
   2. School going
   3. Adolescents
   4. Adult-male and female (only moderate worker)
   5. Old age
   6. Pregnancy
   7. Lactation

Section–B

5. **Therapeutic Diets & Modification of Normal Diets:**
   a) Principles of Therapeutic Diets
   b) Concept of Soft, Bland, Liquid Diets with examples.
6. **Therapeutic diets in the following conditions with principles involved:**
   a) Fever  
b) Constipation  
c) Diarrhea  
d) High Blood Pressure/Hypertension  
e) Diabetes Mellitus

Section–C

7. **Social Development:**
   a) Stages of Social Development  
b) Pattern of Social Development  
c) Role of Family and School in the Development of the Child.

8. **Play:**
   a) Significance of Play  
b) Types of Play  
c) Play Materials/Equipment required for various age group.


Section–D

10. **Pregnancy:**
   a) Signs and Symptoms of Pregnancy  
b) Discomforts  
c) Complications  
d) Care During Pregnancy  
e) Methods of Family Planning in Brief

11. **Pre Natal Development:**
   a) Stages of Pre Natal Development  
b) Factor Affecting Pre Natal Development

12. **Feeding of the Infant**
   a) Importance and Process of Breast Feeding  
b) Bottle Feeding  
c) Weaning  
d) Important Weaning Foods  
e) Importance of Weaning

**References Books:**

<table>
<thead>
<tr>
<th>Sr.no.</th>
<th>Book title</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Art of Vegetarian Cookery</td>
<td>Wasson, Betty</td>
</tr>
<tr>
<td>2.</td>
<td>Breast Feeding and The Child Care</td>
<td>Jayarao, K.S.</td>
</tr>
<tr>
<td>3.</td>
<td>Nutrition for Mother and Child</td>
<td>Venkatachalan, P.S.</td>
</tr>
<tr>
<td>4.</td>
<td>Basic Nutrition and Diet Therapy</td>
<td>Corinnet, Robinson</td>
</tr>
<tr>
<td>5.</td>
<td>Essentials of Food and Nutrition</td>
<td>Swaminathan, M.</td>
</tr>
<tr>
<td>6.</td>
<td>Nutritive value of Indian Food</td>
<td>C. Gopalan</td>
</tr>
</tbody>
</table>
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–VI) (Session 2019-20) (Faculty of Sciences)

SEMESTER–VI

HOME SCIENCE

(PRACTICAL)

Time: 3 Hours
Practical Marks: 40
Teaching: 6 Periods/week

Note: One Group will consist of 15 Students.

1. Planning Calculation of Calories, Proteins, Fats and Carbohydrates. Preparation of diets for the following:
   a) Pre-School child
   b) School going/packed lunch
   c) Adolescence
   d) Adult (Man & Woman) moderate worker pregnancy and lactation diets.
   e) Old age
2. Cooking and serving of the following: Invalid cookery: soft, liquid, fluid diets.
3. Low calories recipe (five)
4. Low cost recipe (five)
5. Enhancing Nutritive value (five).

List of Books:

SEMESTER–VI

COSMETOLOGY (VOCATIONAL)

(THEORY)

Time: 3 hrs.                                                                 Max. Marks: 100
Periods/Week: 4                                                            Theory Marks: 35
                                                                 Practical Marks: 50
                                                                 College Lab Training Marks: 15

Instructions for the Paper Setters:

Note: There will be 2 sections.

Section–A: It will consist of 5 short type questions, and candidate will be required to attempt 3 of
them. Each question carry 5 marks each.
Section–B: It will consist of 4 essay type questions, and candidate will be required to attempt 2 of
them. Each question carries 10 marks each.

Note: Lab training should be taken in college cosmetology lab. And report with picture profile
should be submitted by each student with the remarks of lab instructor.

COURSE CONTENTS:

1. Salon Management
   a) Salon Planning
   b) Types of Salon Ownership
   c) Record Keeping
   d) Types of Services Offered, Types of Employers
   e) Professional Ethics as an employee, co-worker, as an operator

2. Safety Precautions
   a) Health and safety risk
   b) Accidents due to chemicals, electric equipments, services
   c) Consultation
   d) Emergency Procedure
   e) First Aid in Salon

3. Chemical Treatment of Hair
   a) Permanent waving Procedure with the knowledge of hair porosity
   b) Classification of hair colouring: Application of temporary hair colour, semi-permanent hair
colour and permanent hair colour
1. Wigs and hair pieces
   a) Wig materials
   b) Wig Construction
   c) How to attach hair pieces?
   d) How to clean and care for and hair pieces?

2. Hair Colouring
   a) Understanding colour
   b) International colour code
   c) Knowledge and Usage of Permanent Hair colour
   d) Highlightening Procedure
SEMESTER–VI

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

COMMUNITY NUTRITION
(Theory)

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

Pds – 6 Pds/Week

Instruction for the paper setter.
1) Theory paper will be of 3 hrs duration.
2) Question paper should cover all the topics of the syllabus.
3) There will be 8 questions. Students are to attempt 5 questions (12 marks each question).
4) Question 1 is compulsory which contains short answer type questions.

Objectives :-
To impart nutrition education to vulnerable group of community.

Unit–I
1. Concept of community, health, malnutrition, maternal and infant mortality, morbidity, nutritional status.
2. Major nutritional problems prevalent in India - Protein - energy malnutrition, iron deficiency anemia, Vit - A deficiency, iodine deficiency disorder, Vit - D and calcium deficiency, floursis.

Unit–II
3. Malnutrition and Infection - Nutritionally relevant infection and infestation.
4. Effect of malnutrition on defense mechanism.
5. Effect of infection on nutritional status and growth and development.

Unit–III
6. Assessment of nutritional status using different methods
   a) Anthropometric measurement, standards for comparison age assessment, weight, height, skin folds, arm, head and chest circumference, use of growth chart.
   b) Clinical sign and symptoms of malnutrition, classification of clinical sign and symptoms methods of reporting results.
   c) Biochemical assessment - most commonly used biochemical methods and their standard ranges.
   d) Diet Surveys - Population sampling, methods of dietary survey points requiring special attention, adult consumption unit analysis of diet survey data.
SEMESTER–VI

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

Unit–IV

7. Channels of nutrition education in the community, Nutrition education method - lectures and Demonstration, workshops, films, posters, charts, exhibition, books, pamphlets, newspaper, radio & television, power point-presentations.

8. Planning and implementation of Nutrition education programme, objective, selecting of topic, and audio visual aid for target group.

Unit–V


10. Food Faddism and Faculty Food habits.

Unit–VI

   a) Integrated Child Development Sevices. (ICDS)
   b) Applied Nutrition Programme. (ANP)
   c) Special Nutrition Programme. (SNP)
   d) Mid-day meal Programme. (MMP)
   e) Balwadi Nutrition Programme. (BNP)

12. Role of National and international agencies in community Nutrition.
   a) Indian council of Agriculture Research. (ICAR)
   b) Indian council of Medical Research. (ICMR)
   c) Central Food Technological Research Institute, Mysore. (CFTRI)
   d) National Institute of Nutrition, Hyderabad. (NIN)
   e) Food and Agriculture organization. (FAO)
   f) World Health organization. (WHO)
   g) United Nations Children's Fund. (UNICEF)
   h) CARE.
# SEMESTER–VI

**CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)**

References Books:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Book</th>
<th>Year</th>
<th>Author</th>
<th>Edition</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Food Science and Nutrition</td>
<td>2018</td>
<td>Sunetra Rodey</td>
<td>3rd</td>
<td>Oxford University Press</td>
</tr>
<tr>
<td>2</td>
<td>Food production Operations</td>
<td>2011</td>
<td>Parvinder Bali</td>
<td>2nd</td>
<td>Oxford University Press</td>
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<td>3</td>
<td>Nutrition and Dietetics</td>
<td>2015</td>
<td>Shubhangini A. Joshi</td>
<td>4th</td>
<td>McGraw- Hill Education</td>
</tr>
<tr>
<td>5</td>
<td>Food Science</td>
<td>2014</td>
<td>B. Srilakshmi</td>
<td>6th</td>
<td>New Age International, (P) Limited Publishers</td>
</tr>
<tr>
<td>7</td>
<td>Dietetics</td>
<td>2014</td>
<td>B. Srilakshmi</td>
<td>7th</td>
<td>New Age International, (P) Limited Publishers</td>
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<td>8</td>
<td>Food Hygiene and Sanitation</td>
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<td>Sunetra Rodey</td>
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<td>9</td>
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<td>F P Antia</td>
<td>4th</td>
<td>Oxford University Press</td>
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<td>10</td>
<td>Food Science</td>
<td>2006</td>
<td>Sumati R. Mudambi</td>
<td>2nd</td>
<td>New Age International, (P) Limited Publishers</td>
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<tr>
<td>14</td>
<td>Exercise Physiology Fitness and Sports Nutrition</td>
<td>2016</td>
<td>B. Srilakshmi</td>
<td>1st</td>
<td>New Age International, (P) Limited Publishers</td>
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</table>
SEMESTER–VI

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

COMMUNITY NUTRITION
(Practical)

Time: 3 hrs.
Pds – 6 Pds/Week

Marks: 40

Instruction for the paper setter.

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

1. Cook following receipt and calculate their cost and nutritive value.
   a) Low cost energy and protein rich receipes.
   b) Low cost iron rich receipes.
   c) Low cost calcium rich receipes.
   d) Value addition of cereal & pulses.
   e) Weaning foods

2. Assessment of nutritional status of vulnerable group using anthropometry/dietary surveys. Project report will be judged by the external examiner.

3. Development of audio-visual aids for imparting nutrition education- eg. charts, posters, flashcards and power-point presentation.

4. Planning, implementation and evaluation of nutrition education for specific target groups.

5. Visit to see the functioning of mid-day meal programme in schools or any health oriented programme.

Reference Books:-

Food and Nutrition by Dr. M. Swaninathan.
SEMESTER–VI
FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)

HISTORY COSTUMES OF INDIA & WORLD–II
(THEORY)

Time: 3 Hrs.  Max. Marks: 100
Periods/week: 4  Theory Marks: 40
Practical Marks: 60

General Instructions for the Paper Setters:-
The question paper consists of eight questions, out of which student will attempt five.
All questions carry equal marks.

1. Historic Costumes of India and World:
   a) Rome
   b) Asiatic

2. Traditional Costumes of the following States of India:
   a) Gujarat
   b) Manipur
   c) Bengal
   d) Kerela
   e) Karnataka

3. Traditional Textiles of India:
   a) Irkal & Paithani of Maharashtra
   b) Pochampali of Andhra Pradesh
   c) Sanganeri prints of Rajasthan
   d) Kanchipuram sarees of Tamil Nadu

References Books:

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<tr>
<th>Sr.no.</th>
<th>Book title</th>
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<tbody>
<tr>
<td>1.</td>
<td>Textiles and Dress of Gujarat</td>
<td>Edwards,Eiluned</td>
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<tr>
<td>2.</td>
<td>Traditional Indian Textiles</td>
<td>Vandana Bhandari</td>
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<td>3.</td>
<td>Costume Textiles and Jewellery of India</td>
<td>Phyllis Tortora</td>
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<td>4.</td>
<td>Survey of Historic Costumes</td>
<td>B.N. Goswamy</td>
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<tr>
<td>5.</td>
<td>Indian Costume and Collection</td>
<td>Ritu Kumar</td>
</tr>
</tbody>
</table>
SEMESTER–VI
FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)

ADVANCE DESIGNING, CONSTRUCTION & DRAPING–II
(PRACTICAL)

Time: 4hrs.                        Marks: 60
Periods/Week: 2x6

Part–I

Design Draft and Construct following:

2. Evening Gown/ Formal Indian Dress.

Part–II

1. Draping of Skirt Block Front.
2. Draping of Skirt Block Back
3. Draping of Cowl Neckline

General Instructions to the Paper Setter:

1. Design any one garment from syllabus on paper bag–Front & back, Adaptation to be made from sloper, Cutting & Placement, Construction and finishing of garment.

Marks: 40

2. Draping of any block.

Marks: 20

Note: Please send the material list.
SEASON VI

EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL) (THEORY)

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

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

Course Contents:

Community Outreach Programmes

- Parent and community involvement
- Preschool teacher education in India
- NCTE courses for teachers education in early childhood education
- Pre-primary teacher education curriculum
- Women nurtures and care takers
- Parent participation in school

Issues related to Early Childhood Care and Education

- Global issues and specific issues related to India
- Growth and development of pre-school teachers education in India
- Government programmes
- National thrust in global context
- Professional training in childhood
- Future trends in early childhood care and education
Time: 3 Hrs.  
Lectures/Week: 4

Marks: 40

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

Distribution of marks for practical examination  
Written Practical: 10 Marks  
Class Performance: 10 Marks  
Practical File: 5 Marks  
Oral Examination: 5 Marks  
Preparation of Activity Material: 10 Marks

Course Contents:
* Formation of PTA.  
* Working out strategies for community involvement in ECE programmes  
* Preparation of two play material from indigenous/waste products  
* A visit to balwadi school for assessing the curriculum of children

References:
FSQC–11: FOOD PLANT LAYOUT & MANAGEMENT (THEORY)

Time: 3 Hours

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

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

PART–I

Importance of a plant layout selection of site and layouts of different food industries, selection of equipment, machinery and building material, selection and planning of manufacturing process and service facilities, maintenance and replacement, depreciation of machinery, management set up in a plant.

PART–II


PART–III

Traditional foods–Status and need for revival in the context of westernized non-traditional foods, urbanisation and such factors. Product Development: Primary Processing, Secondary Processing, Types of products e.g. Quick cooking, fast foods, fabricated food, convenience foods.

Recommended Books:

2. Food Processing Waste Management by Green JH and Kramer A, 1979, AVI Publishers, USA.
List of Practicals:

1. Calculation of depreciation of machinery and processing costs.
2. Determination of B.O.D./COD.
3. Preparation of layout and process diagram of potato crisp manufacturing plant.
4. Preparation of layout and process diagram of Jam/Marmalade manufacturing plant.
5. Preparation of layout and process diagram of Bread making plant.
6. Preparation of layout and process diagram of a dairy industry.
7. Preparation of layout and process diagram of wine making unit.
8. Preparation of layout and process diagram of a modern slaughter house.
10. Determination of sanitary status of plant equipment.
11. Visit to various food industries.
SEMESTER–VI

FINE ARTS
(DRAWING & PAINTING)

PAPER–A: THEORY

Time: 3 Hrs.  Max. Marks: 100

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

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

OUTLINES OF TEST

Note:
(a) 50 Marks for the theory paper and 25 marks for each practical.
(b) The question paper will cover the entire syllabus.
(c) Questions should be based on world famous painting and sculptures whose slides are easily available.
(d) Question paper should cover the syllabus uniformly.
(e) The paper setter should set the paper in two sections section A and B.
(f) The division of the marks will be as under:

Section A: 25 marks for 25 short answer questions. Each question carries 1 mark.

Section B: 25 marks for 5 questions. The examiner will set 8 questions. The candidate will attempt 5 questions of 5 marks each. Compartment candidates in the subject of Fine Arts will appear only in theory paper during supplementary exam. Previous marks of practical paper will be considered for the aggregate.

Indian Painting:

1. Impact of British on Indian Art- Company School
2. Bengal School- Abanindranath Tagore
3. Contemporary Art- Rabindranath Tagore, Amrita Shergill, Jamini Rai
5. Kalighat Painting
SEMMESTER–VI

FINE ARTS
(DRAWING & PAINTING)

PAPER–B: LANDSCAPE PAINTING
(PRACTICAL)

Time: 5 Hrs

Marks: 25

Work Load:

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

On the spot landscape painting. Emphasis should be given on perspective, Colour and its application in harmony.

Medium: Any medium

Size: ½ Imperial
SEMESTER–VI

FINE ARTS
(DRAWING & PAINTING)

PAPER–C: FULL LIFE DRAWING
(PRACTICAL)

Time: 5 Hrs  
Marks: 25

Work Load:

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<tr>
<td>Theory</td>
<td>-</td>
<td>3 periods per week.</td>
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<tr>
<td>Practical</td>
<td>-</td>
<td>9 periods per week.</td>
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<tr>
<td>Total</td>
<td>-</td>
<td>12 periods per week.</td>
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Rendering of full life study should be done in any medium. Emphasis should be given to structure, volume, proportion, tones and texture.

Medium: Any medium

Size: ½ Imperial

Candidates will submit-

(i) 5 sheets of each paper
(ii) Sketch book containing 50 sketches.
SEMESTER–VI

PAPER–A: HISTORY OF ART

Time: 3 Hours
Marks: 50

Instructions for the Paper Setters:-

Note:  
(a) The question paper should cover entire syllabus. It may contain very specific short answer questions.
(b) The paper-setter should set 15 questions in all. Students will attempt 10 questions of 5 marks each.

History of European Painting and sculpture from C. 1850 onwards.-
Impressionism & Post –Impressionism
Cubism
Expressionism
Abstract Expressionism
Surrealism
SEMESTER–VI

PAPER–B: HISTORY OF ART

Time: 3 Hours

Marks: 50

Instructions for the Paper Setters:-

Note: (a) The question paper should cover entire syllabus. It may contain very specific short answer questions.

(b) The paper-setter should set 15 questions in all. Students will attempt 10 questions of 5 marks each.

Theory and Principles of Art and its appreciation

Aesthetic approach of the Indian and the Western Art

Terms-Form, Content

Abstraction in art

Realism and Naturalism

Functions of art.
SEMESTER–VI

GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)
(THEORY)

Time: 3 Hrs

1. Enameling
2. Chasing and Repouse
3. Flexible Shaft
4. Riveting
5. Sand Blasting
6. Lowering and Raising the Karat of Gold and process of Gold electroplating.
SEMESTER–VI

GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)  
(PRACTICAL)  

Marks: 50

1. Domestic Jewellery - 3 Final Designs
2. Export Jewellery -3 Final Designs
3. Exercise on:
   a) Chasing
   b) Repousse

Development of Bangles, Bracelets, Ring etc.
Through metals by using above techniques
SEMESTER–VI

STILL PHOTOGRAPHY & AUDIO PRODUCTION (VOCATIONAL)
(THEORY)

Time: 3 Hours

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

Instructions for the Paper Setters:
Total No. of questions to be set: 20
Total No. of questions to be attempted: 12
Question paper is divided in two parts.

Section–A: It will consist of 16 questions. Student will attempt 10 questions. Each question will carry three marks. (Total: 30 Marks)

Section–B: It will consist of 4 questions. Student will attempt any 2 question. Answer will carry ten marks. (Total: 20 Marks)

Course Contents:
1. Characteristics of sound wave and its propagation.
2. Acoustics, Echo, R.T. Decibels etc.
4. Directional response and polar diagram.
5. Factors governing the selection of mikes.
6. Types of cables and connectors and their uses.
7. Magnetic recording principles.
8. Tape recorders and playback machines.
11. Mixing of sound.
12. Monitoring.
13. Difference in the recording, editing and mixing for different media.
14. Sound recordists role in a production crew.

Suggested Readings:

<table>
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SEMESTER–VI

STILL PHOTOGRAPHY & AUDIO PRODUCTION (VOCATIONAL)

AUDIO VISUAL
(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 the Students:

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

Course Contents:

1. On slide editing tables.
2. Learn to operate the following equipment:-
   a) Audio Cassette Player
   b) Amplifier for Recording
3. Sound Recording
   a) Use of Microphone
   b) Cassette Player
   c) Cassette recording with synch
   d) Sound Mixer
   e) Amplifier Monitoring
4. Sound and Narration editing using the following equipment:-
   a) Cassette Player
   b) Cassette Recorder
   c) Amplifier
   d) Sound Making and Channel
   e) Operation of Slide Projector
   f) Sound Making & Channel
   g) Operation of Slide Projector
   h) Dissolve Units

Suggested Readings:

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

### Course Contents:
- Fine Screen
- Mechanical Tint
- Screen Size
- Reverse
- Negative, Positive
- Bleach Out
- Spatter
- Over Size
- Center spread
- Bridging the Gutter
- Cut Out Blue Tint
- Half Tone Process
- Doordarshan in Advertising
- Art Director
- Marketing Executive
- Visualizer
- Copywriter.

### Suggested Readings:

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<tbody>
<tr>
<td>1.</td>
<td>Kleppner’s Advertising Procedure</td>
<td>J. Thomas Russel/ Glen Verrill/ Ronald lane</td>
</tr>
<tr>
<td>3.</td>
<td>Advertising Manager’s Hand Book (Third Edition)</td>
<td>Stansfield</td>
</tr>
</tbody>
</table>
SEMESTER–VI
APPLIED ARTS

OUTDOOR CAMPAIGN: POSTER AND
HOARDING (PRACTICAL)

Time: 6 Hours
Size: ½ Imperial
Medium: Poster Colours

Instructions for the Paper Setters:
1. The paper will be set by the Examiner on the spot considering the syllabus.
2. Imaginative and Creative work on the part of the students is to be emphasized. Imagination and Technical competence is expected. The students should also use updated and latest techniques in his/her work.
3. Limited references while preparing Poster and Hoarding can be taken in case of a Commercial Topic. Logo and writing style of the existing company can be taken from any available source.
4. Any one of the above (Poster and Hoarding) is to be made by the students for the examination

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

Course Contents:
Topics: Commercial Topics like Coca-Cola, Archies, NIFT, Fashion etc.
Educational topics like Donate Blood, Donate Eyes, Humanity Cause, and Increase Educational Standards etc.

Suggested Readings:

<table>
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<tr>
<td>1.</td>
<td>Art of The Modern Movie Poster</td>
<td>Judith Salavetz, Spencer Drate &amp; Sarowitz</td>
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<td>2.</td>
<td>Regular Graphic Design Today</td>
<td>Gestalten</td>
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SEMESTER–VI

SCULPTURE

(THEORY)

Time: 3 hrs

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

Note:
1. The question paper should cover the entire syllabus.
2. The paper setter should set fifteen (15) questions in all and students shall attempt 10 ten questions.
3. The questions can be repeated from previous question paper.

Chapter – I:

Khajuraho Sculpture
• Introduction (Shiv Parvati, Apsaras Playing a Flute, Apsaras applying Collyrium to her eyes, Lady with a looking glass, mother & child, Lady writing a love Letter and General Note on Apsaras or sura Sundaries Sculptures)

Chapter – II:
Retrospective and Contemporary Indian Sculptors (Biography & their selected works)

1. Ramkinker Baij
   o Santhal Family,
   o Harvester,
   o Portrait of Abanindranath Tagore

2. D.P Roy chowdhary
   o Triumph of Labour
   o Martyr's Memorial
   o Sculptor's Father (Potrait)

3. Pradosh Dass Gupta
   o Volume in three Masses
   o Jai Hind
   o Mother and Child

4. Chintamoni Kar
   o Skating the stage
   o Park Figure (1949)
   o Seated Figure (1960)
5. Dhanraj Bhagat
   - Flute Player
   - Three Women
   - Cosmic Man

6. Sankho Chowdhary
   - Women with Pitcher
   - Standing Figure
   - Mahatma Gandhi

7. Satish Gujral
   - Deity Series (1990)
   - Prayer (2000)
   - The Crucification (1981)
SEMESTER–VI

SCULPTURE

(PRACTICAL)

Time: 6 Hrs                      Marks: 50

1. Terracotta Mural based on Birds, Flora and Fauna (Minimum Size 1’ x 1’ (Feet) Total
   No. work–1

2. Head study in clay, modeling from life head only in life size. This work should be produced in plaster of Paris/cement. (Total No. of work–1)

3. Composition in round based on Human Figures/Animals/Birds. These work should be produced in P.O.P/Fiber Glass/Metal (Total No of work–1)

Books Recommended:

1. History of Fine Arts in India and West By Edith Tomory
2. Indian Art (A concise History) By Roy C Craven
5. Bhartiya Murtikala ka Parichaya By Bhim Singh Berval
6. D.P Roy Chaudhary By Lalit Kala, New Delhi (1973)
7. Sankho Chaudhary By Lalit Kala, New Delhi (1970)
8. Ram Kunker Baij By Lalit Kala, New Delhi (1961)
9. Chintamani Kar By Lalit Kala, New Delhi (1965)
10. Prodosh Das Gupta By Lalit Kala, New Delhi (1971)
SEMESTER–VI

MUSIC (VOCAL)
(THEORY)

Time: 3 Hours
Theory: 3 Periods per week
Total Marks: 100
Theory Marks: 50
Practical Marks: 50

Instructions given to the examiners are as under:
1. There should not be more than fifteen students in a batch for practical examination.
2. Harmonium will only be allowed as a base instrument in practical examination.
3. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.
4. The paper setter will set Eight questions in all. 1st question will consist of 10 objective type questions which will be compulsory to all carrying 1 mark each. The candidate may be asked to attempt Five questions in all.
5. Candidate can take both subjects i.e. Vocal & Instrumental Music as elective subject.
6. Candidate can take Tabla subject along with Music Vocal or Music Inst.

COURSE CONTENTS:

1. Historical Development of Indian Music during Modern Period.
3. Short notes on the following terms:
4. Detailed knowledge of following Gharanas of Khayal Gayaki.
   a. Gwalior
   b. Kirana
   c. Agra
   d. Patiala
   e. Delhi
5. Detailed description and notations :-
   i) Jaunpuri ii) Kalavati iii) Bhageshwari
6. Detailed study of the following Talas:
   i) Jhumra ii) Dhammar.
7. Essay writings on the following Topics:
   i) Raag Aur Ras ii) Music & Literature
8. Life & Contribution of the following musicians:
   i) Girija Devi ii) Fayyaz Khan iii) Sumati Mutatkar.
9. Role of devotional music in human life.
SEMESTER–VI

MUSIC (VOCAL)
(PRACTICAL)

Time: 20 Minutes for each student
Periods/Week: 9

Marks: 50

1. One Drut Khayal in each of the following Ragas with simple Alaps and Tanas: Jaunpuri, Kalavati, Bhageshwari.
2. One Vilambit Khayal in any of the Ragas prescribed in the course with simple Alaps and Tanas.
3. One Dhammar in any of the prescribed Ragas.
4. One Shabad/Bhajan in any of the Ragas prescribed in the course.
5. Brief Knowledge of Non Detailed Ragas: Jansammohani, Ragageshwari, Asawari
6. Ability to sing a Cinematic Song with the help of Harmonium.
7. Ability to recite Jhumra and Dhammar showing Khali Tali with hand motion in Ekgun, Dhugan Laikaris.
8. Ability to play five alankars on the Harmonium based on the Khamaj Thata.
9. Ability of play theka of Ektaal on Tabla.

Books Recommended:

5. Sangeet Nibandhavi, Dr. Gurnam Singh, published by PunjabiUniversity, Patiala.
6. Gurmat Sangeet, Prabandh ate Pasaar, Dr. Gurnam Singh.
SEMIESTER–VI

MUSIC (INSTRUMENTAL) (THEORY)

Time: 3 Hrs.
Theory: 3 periods per week

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

Instructions given to the examiners are as under:–
1. There should not be more than fifteen students in a batch for practical examination.
2. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.
3. The paper setter will set eight questions in all. 1st question will consist of 10 objective type questions which will be compulsory to all carrying 1 mark each. The candidate may be asked to attempt five questions in all.
4. The External Examiner will set question paper for practical on the spot.
5. Candidate can take both subjects i.e. Instrumental music and Vocal music as elective subjects.
6. Candidate can take Tabla subject along with instrumental music or vocal music.

Course Contents:
1. Role of media in Indian Music.
2. Short notes of the following musical terms: Kan, Baaj, Jamjama, Murki
3. Life & contribution of the following Musicians:
   i) Nikhil Benerji (Sitar) ii) Panna lal Ghosh (Flute).
4. Formation of 72 Thatas by Pt. Vyankat Mukhi
5. Relation of Raga with Season & Time.
6. Detailed knowledge of Sahayak Nad.
7. Detailed description and notations of prescribed Ragas:
   i) Hameer  ii) Vrindavani Sarang iii) Bhairavi
8. Detailed knowledge of following Ragas:–
   i) Kedar ii) Madhmaadh Sarang iii) Bilaskhani Todi
9. Detailed knowledge of the following Talas:
   i) Jhumra ii) Dhamar.
10. Salient features of Gurmat Sangeet.
SEMESTER–VI

MUSIC (INSTRUMENTAL)
(PRACTICAL)

Time: 20 Min. for each student
Practical: 9 periods per week
Marks: 50

1. Ability to play 10 Alankars in the Swaras of Bharaivi Thata.
2. One maseet khani Gat in any Raga prescribed in your course Hameer, Vrindavni Sarang & Bhairvi.
3. Rajakhani Gat in each Raga.
4. One Gat in Dhammar Style in the prescribed Ragas.
7. Ability to play Theka of Ektaal on Tabla.
8. Ability to sing a shabad/Bhajan with Harmonium.

Books Recommended:
5. Sangeet Shastra Darpan Shanti Govardhan.
7. Gurmat Sangeet, Prabandh ate Pasaar, Dr. Gurnam Singh
9. Sangeet Nibandhavli, Dr. Gurnam Singh, published by PunjabiUniversity, Patiala.
SEMESTER–VI

INDIAN CLASSICAL DANCE
(THEORY)

Time: 3 Hrs
Periods/Week: 3

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

Instructions for the Paper Setters/Examiners:
1. The paper setter will set eight questions. 1st question will consist of 10 objective type questions which will be compulsory to all carrying 1 mark each. The candidate may be asked to attempt five questions.

Course Contents:
1. Detailed knowledge of Kuchipudi with its historical background, style, costume and music etc.
2. Abhinaya and its bhedas.
4. Thumri in Kathak.
5. Indian and Western Dance.
7. Folk dances of Haryana.
8. Notation of:
   (i) PANCHAM - SWARI - 15 MATRAS
       a) Tatkar in Ekgun, Dugun & Chougun 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
   (ii) TEEN – TAAL - 16 MATRAS
       a) Tatkar in Ekgun, Dugun & Chougun Layakaries.
       b) Thaat- 1
       c) Amad-1
       d) Salami-1
       e) Damdar and Bedam Tehai - 1 - 1
       f) Tora-2
       g) Paran-1
       h) Farmaishi Paran -1
       i) Pramelu
10. Definition and Notation of following Taals in Ekgun, Dugun, Tigun and Chougun Layakaries.
    (a) Teen Taal
    (b) Pancham Swari
SEMMESTER–VI

INDIAN CLASSICAL DANCE
(PRACTICAL)

Time: 20 minutes for each student
Periods/Week: 9
Marks: 50

Instructions for the Examiners: The Examiner will set practical paper on the spot.
Instructions given to the examiners are as under:

1. There should not more than fifteen students in a batch for practical examination.
2. Harmonium will be allowed as accompaniment to perform Nagma.
3. Separate practical paper should be set for each class from practical of prescribed syllabus on the spot.

COURSE CONTENTS:

1. **PANCHAM SWARI TAAL (15 MATRAS)**
   a) Tatkar in Ekgun, Dugun and Chougun Layakaries.
   b) Thaat- 2
   c) Tehai-1
   d) Amad-1
   e) Salami-1
   f) Tora-2
   g) Paran-1
   h) Chakardar Paran -1
   i) Kavit-1

2. **TEEN TAAL (16 Matra)**
   a) Tatkar in Ekgun, Dugun & Chougun Layakaries.
   b) Thaat-1
   c) Amad-1
   d) Salami-1
   e) Damdar and Bedam Tehai - 1 - 1
   f) Tora-2
   g) Paran-1
   h) Farnaishi Paran - 1
   i) Pramelu

3. Padhant of all the Practical material in given Taals.
4. Padhant of all thekas in Dugun & Chougun Layakaries.
7. Ability to play the theka of Jhapaatal on Tabla.
8. Ability to play the theka of a Jhapaatal on Tabla.
9. Ability to sing National Anthem on Harmonium.

Books Recommended:
5. Kathak Nritya Shiksha Part-I & Part II, Dr. Puru Dadhich, Bindu Prakashan, Ujjain (MP)
SEMESTER–VI

TABLA
(THEORY)

Time: 3 Hours
Theory: 3 periods per week.
Total Marks: 100
Theory Marks: 50
Practical Marks: 50

Instructions given to the examiners are as under:
1. There should not be more than fifteen students in a batch for practical examinations.
2. Harmonium will be allowed as accompaniment to perform the Nagma.
3. While sending the syllabus to paper setter in theory the syllabus prescribed for practical paper should also be sent.
4. The paper–setter will set eight questions.. 1st question will consist of 10 objective type questions which will be compulsory to all carrying 1 mark each. The candidate will be asked to attempt five questions.
5. Candidate can take Tabla subject with Vocal or Instrumental Music (Sitar, Sarangi, Veena, Sarod, Dilruba, Violin, Guitar, Bansuri, Shehnai, Rabab, Saranda, Taus, Santoor and any other Swar Vadhya to the played on the basis of Indian Classical Music).

COURSE CONTENTS:

1. Define and Explain the following musical terms:
   a. Pitch
   b. Intensity
   c. Timbre
2. Importance of Parant & its importance in Tabla.
3. Tabla as Solo Vadan.
4. Notation & description of the following Talas:
   a. Mat Tal- One Peshkar, Two Kayada, Five Paltas with Tihaai, two Tukdas, two Tihaais, One Farmaishi Paran, One Chakardar Paran, One Rella & Gat.
   b. Char Tal- Two Tukdas, Two Tihaais, Two Paran, Two Rella.
   c. Dhammar- Two Tukdas, Two Tihaais, Two Paran, Two Rella.
5. Life Sketch & Contribution of the following Musicians:
   a. Abaane Mistri
   b. Anuradha Pal
   c. Yogmaya Shukla
6. Detailed Knowledge of structure & formation of Tabla.
8. Detail knowledge of Percussion Instruments used in Gurmat Sangeet.
9. Sound techniques of Tabla accompanying with different singing styles.
10. Detailed knowledge of western percussion instruments.
SEMESTER–VI

TABLA
(PRACTICAL)

Time: 20 minutes for each student

Marks: 50

Practical: 9 periods per week.

1. Taal Prescribed: Mat Tal, Chartal & Dhammar.
2. Mat Tal- One Peshkar, Two Kayada, five Paltas with Tihaai, two Tukdas, two Tihaais, One Farmaishi Paran, One Chakardar Paran, Two Rellas & Gat.
3. Chaar Tal- Two Tukdas, Two Tihaais, Two Paran, Two Rellas.
4. Dhammar- Two Tukdas, Two Tihaais, Two Paran, Two Rella.
5. Ability to play Nagma on Harmonium in Mat Tal, Chartal & Dhammar.
6. Ability to play Theka of Vilambit Ektal and Vilambit Tilwara.
7. Practice of playing the above Taals with Vocal and Instrumental performance.
8. Tuning of Tabla.
9. Ability to sing a Shabad/Bhajan with Harmonium.

Books Recommended:

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

SEMESTER–VI

COMPUTER SCIENCE

INFORMATION TECHNOLOGY
(THEORY)

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

Instructions for the Paper Setters:-

Note: (i) In theory eight questions are to be set in all. The candidates are required to attempt five of them. All questions are to be equal marks.  
(ii) The maximum marks for the paper is 75.  
(iii) As per as possible except in the Computer language papers no programme may be asked in theory papers. Emphasis should be on algorithm development.

UNIT–I

Data & Network Communication:

UNIT–II

Information Systems:

Fundamentals of Networking O.S.:
Introduction to components of various Networking O.S., Case Study of Network Operating System Windows NT.
UNIT–III

Fundamental of Client Server:

Careers in Computers:
Role of Programmers, Program analysis, System Analyst, System Administrators, System Managers, System Integrators, DTP Manager & Administrators, MIS Director.

References:
3. Hussain & Hussain, Computer Technology, Applications & Social Implications, PHI.

(PRACTICAL)

Marks: 25

Periods/Week: 2

Note: Practical Marks will include the appropriate weightage for proper maintainance of lab record.
B.A./B.Sc. (Semester System) *(12+3 System of Education) (Semester–VI) (Session 2019-20)*
*(Faculty of Engineering & Technology)*

**SEMESTER–VI**
**INFORMATION TECHNOLOGY (VOCATIONAL)**
**SOFTWARE ENGINEERING**
**(THEORY)**

**Time:** 3 Hours

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

**Instructions for the Paper Setters:**–

(i) In theory eight questions are to be set giving the weightage to all the portions. The candidates are required to attempt any five. All questions are to be equal marks.
(ii) The maximum marks for the paper will be 75.
(iii) As per as possible except in the Computer language papers no programme may be asked in theory, papers. Emphasis should be on algorithm development.

**UNIT – I**

**UNIT – II**
Application architecture and process design, Database design, Input design and Prototyping output design and prototyping.

**UNIT – III**
User interface design and prototyping, Software design, Object-Oriented design, System implementation and support, S/W testing.

**References:**

**(PRACTICAL)**

**Marks:** 25

Practical on the basis of Software Engineering
SEMESTER–VI

COMPUTER MAINTENANCE (VOCATIONAL)

(PROJECT)

Max. Marks: 100

General Instructions:

1. A software module based on the work done in the entire course is to be developed.

2. The soft copy of the module shall be submitted to the College/Institute till April 30.

3. The software module shall be developed in groups, consisting of at most two students in a group.

4. The respective college shall depute guide(s)/supervisor(s) under whose supervision the software module shall be developed. The guide/supervisor shall clarify that the work done is original & authenticated. The certificate found to be incorrect at any stage shall attract the proceedings against all the stakeholders, as per the University rules.

5. The evaluation of the module shall be done as per the common ordinance of UG/PG w.e.f. 2012–2013 under semester system.
UNIT – I

1. Introduction to Data Processing.
3. Characteristics of Business Organization and Use of computers in various work areas of business.
   a) Payroll System
   b) Inventory Control
   c) Online Reservation
   d) Computer in Banks
   e) Computer Application in Educational Institutions
   a) Batch Processing
   b) Online Systems
   c) Time Sharing
   d) Real Time Systems
   e) Distributed Processing
UNIT–II

5. File Organization.
   a) Types of Files (Master, Transaction, Work, Backup, Audit Files)
   b) File Organization (Serial, Sequential, Indexed Sequential, Direct Assess Files).

6. Spreadsheets (Data Analysis Package)
   a) Introduction to Spreadsheets
   b) Lotus 123/MS Excel
   c) Creating a simple worksheet
   d) Computations in a Worksheet
   e) Printing the Worksheet
   f) Graphs
   g) What if Analysis (Data sort, fill, query, filter)

7. Iterative controls
   * Simple Loops (Loop–end loop)
   * Numeric FOR Loops
   * While Loops

UNIT–III

8. Intro and Advantages of procedures and functions with examples.

9. Intro to database Triggers
   * Creation a database trigger with example
   * Enable and disable of database trigger
   * Drop a database trigger

10. Developer 2000
    * Reports 6.0
    * Forms 6.0

11. Utilities
    * Export/Import
    * SQL
    * Loader

(PRACTICAL)

Periods/Week: 2

Marks: 25
SEMESTER–VI

ELECTRONICS
MICROPROCESSOR PROGRAMMING (601)
(THEORY)

Time: 3 Hours Marks: 40

Instructions for the Examiners / Paper Setters:
1. Equal weightage should be given to each unit of the syllabus.
2. Question Paper should be set strictly according to the syllabus.
3. The distribution of marks is as given below:

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

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

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

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

UNIT–I
Programming techniques: looping, counting, and indexing, additional data transfer and 16-bit arithmetic instructions, arithmetic operation related to memory, logic operations: compare, logic operation: rotate.

UNIT–II
Stack, subroutine, conditional call and return instructions, advanced subroutine concepts, BCD to binary conversion, binary to BCD conversion, BCD addition, introduction to advanced instruction and applications.

UNIT–III
Interrupts of 8085, 8085 vectored interrupts, programmable data transfer, DMA data transfer and interrupt driven data transfer schemes. 8257 DMA controller, 8255, 8251, 8253, 8279, 8259. Introduction to 16 bits, 32 bits & 64 bits microprocessor s.a. 8086, 486, Pentium processor.

Suggested Readings:
SEMESTER–VI

ELECTRONICS

TELEVISION SYSTEM (602)

(THEORY)

Time: 3 Hours
Marks: 40

Instructions for the Examiners / Paper Setters:
1. Equal weightage should be given to each unit of the syllabus.
2. Question Paper should be set strictly according to the syllabus.
3. The distribution of marks is as given below:

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

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

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

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

UNIT–I
Elements of TV system, picture-Sound transmission and reception, synchronization, analysis and synthesis of TV Pictures, gross structure, image continuity, number of scanning lines, flicker, fine structure, tonal gradation, composite video signal, video signal dimensions.

UNIT–II
Channel bandwidth, vestigial sideband transmission and reception of vestigial, sideband signals, monochrome picture tube, beam deflection, screen phosphore, face plate, picture tube characteristics, picture circuits controls, TV camera tubes, basic principle, image orthicon, vidicon, plumbicon. TV receiver, types of TV receiver, receiver sections.

UNIT–III
Essential of colour television, compatability, three colour theory, luminance, hue, saturation, colour TV camera tube, the luminance signal, values of luminance and colour difference signals, Polarity of colour difference signals, colour TV display tube, delta gun colour picture tube, colour signal transmission, bandwidth for colour signal transmission, modulation of colour difference signals, weighting factors, formation of chrominance signal, NTSC colour TV system, NTSC colour receiver, limitations of NTSC, system PAL colour television system, remote control, electromechanical control system, electronic control system. Basic Concepts of liquid crystal display and plasma TV, introduction to high definition TV.

Suggested Books:
2. Television Engineering by Arvind Dhake (TMH).
SEMMER–VI

ELECTRONICS

MICROPROCESSOR PROGRAMMING AND TELEVISION SYSTEM LAB (603)
(PRACTICAL)

Time: 3 Hours & 30 Minutes

Marks: 20

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

List of Practical

Section–A
1. Simple programs for sorting a list number in ascending and descending order.
2. Sorting a list without destroying the original list.
3. Code conversion-Binary to Gray/Gray to Binary.
4. Program of addition of BCD numbers.
5. Program for multiplication of 8 bit numbers using Booth's algorithm.
6. Interface a LED array and 7-segment display through 8255 and display a specified bit pattern/character sequence at an interval of 2 seconds.
7. Write a program to demonstrate rolling display from left to right using 8279. Do not use any built in routines, instead program the 8279.
8. Use the SOD line to generate a square wave of the specified duty cycle at a given frequency.

Section–B
1. To measure voltages, resistances and to observe waveform of sync detector circuit of a given television set.
2. To observe voltage, resistance, waveform of video amplifier circuits and to plot its frequency response characteristics.
3. To observe voltage, resistance and waveforms of Picture I.F. amplifier, Sound I.F. amplifier and sound output stage of T.V. set.
4. To align the video I.F. Stage of T.V. receiver.

Suggested Readings:
5. Television Engineering by Arvind Dhake (TMH).
SEMESTER–VI

INFORMATION TECHNOLOGY SPECILIZATION SOFTWARE DEVELOPMENT
(VOCATIONAL)

Paper – I: C++ (OOP Language)

Time: 3 Hours M. Marks: 75

Note 1: In theory eight questions are to be set in all. The candidates are required to attempt five of them. All questions are to be of equal marks.

2. The students can use only Non–Programmable & Non–Storage Type Calculators.

UNIT-I

Getting Started Introduction, A brief history of C++, Variable, constant, Expression, Statements, Comments and keywords of C++

Operator: Arithmetic, Relational, Logical, Assignment, Increment/Decrement, Conditional, Precedence of Operators, Data type, Type Conversion, library function.

Input / Output Statements: Inputting using in and outputting using cout statements, Preprocessor directives, Basic program construction.

Decision Making and Looping Statement
If Statement, If..else statement, nesting of if statement, switch statement, conditional operator statement. While loop, do loop, for loop, nesting of loops, break and continue statement, go to statement.

UNIT-II

Arrays: Defining an array, array type, array elements, Accessing and averaging array elements, initializing array. String handling, array of strings.


UNIT-III


Inheritance: Derived class and Base Class. Derived Class Constructors. Overriding member functions. Public and Private inheritance. Types of Inheritance.


Books:
1. C++ & Graphics by Vijay Mukhi’s
2. Turbo C++ by Robert Lafore.
SEMESTER–VI

INFORMATION TECHNOLOGY SPECILIZATION SOFTWARE DEVELOPMENT (VOCATIONAL)

Paper–I: Lab – I: Programming in C++

Time: 3 Hrs. Max. Marks: 25

Practical based on Programming in C++
AUTOMOBILE MAINTENANCE (VOCATIONAL)
(THEORY)

Time: 3 hours
Max. Marks: 60

Periods per week Theory 6

Section–A: It will consist of 5 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry two marks i.e. (2 marks); total weightage of the section being 10 Marks.

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

Section–C: It will consist of essay type question with answer to each question upto 5 pages in length. Four questions will be set by the examiner & candidates will be required to attempt two. Each question will carry 15 marks; total weightage of the section being 30 marks.

UNIT–I

Brake System and Brake Services: Introduction, Purpose of brakes, Requirement of brakes, Brake efficiency, Factor effecting to brakes, Braking forces, Classification of Brakes, Braking force, Classification of Brakes, Braking systems, Method of actuating brakes, Construction of actuating brakes, Construction of disk type brakes, Mechanical brakes, Coiling mechanical break, Hydraulic brakes, Bleeding of brakes, Hill holder, Electric brakes, Brake troubleshooting. Basic concepts of Anti lock braking system.

UNIT–II

Tyre and Wheels Construction and Service: Wheel assembly, Wheels, Rims, Tyres, Types of tyres, Construction of a tyre, Tyre plies and construction, Tyre sizes, Tubes, Tyre inflation pressure, Schrader valve, Tyre inspection, Desirable tyre properties, Tyre chains, Care and maintance of rims, Tyres and tubes, Tyre rotation, Repair of inner tube, Repair of tyres, Wheels and tyres troubleshooting.

UNIT–III

Tune up and Workshop Setup: Introduction, Tune up procedure of Engine, Fault finding and troubleshooting in petrol engine and diesel engine, to set up and Automobile workshop and service station, Ways to sell better service.
SEMESTER–VI

AUTOMOBILE MAINTENANCE (VOCATIONAL)

LAB – II
(PRACTICAL)

Time: 3 Hours

Total Marks: 40

Periods per week: Practical: 4

Practicals:

1. Front wheel alignment.
2. Foot Brake Leather opening and fitting.
3. Brake Adjustment.
4. Tie rod opening and fitting.

References:

1. Basic Automobile Engineering (Punjabi Edition) Written by C.P. Nakra, Published by Dhanpat Rai and Sons, Jalandhar, (Delhi).
SEMESTER–VI

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)
PAPER–K (THEORY)

Time: 3 Hours 
Marks: 30

Instructions for the Paper Setters:

Section–A: It will consist of 5 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry half mark i.e. (1 mark); total weightage of the section being 5 Marks.

Section–B: It will consist of short answer questions with answer to each question upto 1 page in length. Eight questions will be set by the examiner and 5 will be attempted by the candidates. Each question will carry 2 marks; total weightage of the section being 10 marks.

Section–C: It will consist of essay type question with answer to each question upto 5 pages in length. Four questions will be set by the examiner & candidates will be required to attempt two. Each question will carry seven and half marks; total weightage of the section being 15 marks.

UNIT–I

Ice Manufacture: Introduction, Principle of Ice Production, Different Methods of Ice manufacturing, Treatment of Water for making the Ice, Brines, Freezing Tanks, Ice cans, Quality of Ice, General layout of Ice factory

UNIT–II

Food Preservation: Introduction, Factors contributing to food spoilage, Causes of Food Spoilage.

UNIT–III

Methods of Food Preservation: Freezing methods of Food preservation, Preservation of Foods with direct contract of liquid CO₂ Freeze Drying, Preservation of Different products, cold storage and commercial cabinets.
Instructions for the Paper Setters:

Section–A: It will consist of 5 very short answer questions with answer to each question up to five lines in length. All questions will be compulsory. Each question will carry half mark i.e. (1 mark); total weightage of the section being 5 Marks.

Section–B: It will consist of short answer questions with answer to each question up to 1 page in length. Eight questions will be set by the examiner and 5 will be attempted by the candidates. Each question will carry 2 marks; total weightage of the section being 10 marks.

Section–C: It will consist of essay type question with answer to each question up to 5 pages in length. Four questions will be set by the examiner & candidates will be required to attempt two. Each question will carry seven and half marks; total weightage of the section being 15 marks.

UNIT – I

Transport Air Conditioning: Automobile Air–Conditioning, Railway Air conditioning, Marine Air Conditioning, Air–Crafts, Air–Conditioning

UNIT – II


UNIT – III

Industrial and Special Applications: Introduction, Design considerations in Bus Air Conditioning, Air conditioning in textile industry, Medical applications, Engineering Applications, Air conditioning of Special Type Building, Ice Rinks.
SEMESTER–VI

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)

PRACTICAL: LAB–III

Time: 2 Hours
Period Per week Practical: 4
Total Marks: 40

List of Experiments:

1. To study the service Ice candy plant (small unit)
2. To study the cold storage and layout the cold storage for leakage.
3. To test overload and relay in window unit
4. To find the C.O.P. of an Air conditioner.
5. To study Domestic Refrigerator

List of Books Recommended:

<table>
<thead>
<tr>
<th>Name of Book</th>
<th>Author</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigeration &amp; Air Conditioning</td>
<td>S.C.Arora</td>
<td>Dhanpat Rai</td>
</tr>
<tr>
<td>Refrigeration &amp; Air Conditioning</td>
<td>Dowkundwar Khurmi</td>
<td>Katson Publication</td>
</tr>
<tr>
<td>Refrigeration &amp; Air Conditioning</td>
<td>Sarao, Gaabi Singh</td>
<td>Satya Prakashan.</td>
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SEMESTER–VI

RELIGIOUS STUDIES (यमन अधिकृत)
(विषय दिविज्ञान के संबंध)

भाग 3 छात्र

लेखन पर फरवरी%: 75%

पेपर मेंट रेटिंग:
पेपर में कंटैक्ट वर्ड्स: वी, अ, ए, ए, ए, अ, द, म, ही 2-2 पूर्ण, पूंजी संख्या। उपरोक्त नॉटेशन में कंटैक्ट वर्ड्स पूर्णतः उपेक्षित नहीं। 35 अंक के लिए नॉटेशन वर्ड्स का सामना उपरोक्त वर्ड्स से 15 अंक उपरोक्त वर्ड्स का सामना। उपरोक्त वर्ड्स के 4-4 अंक उपरोक्त वर्ड्स।

पूर्विकाध्यक्षता रेटिंग:
विषय ही, वी, ए, म, ही कंटैक्ट वर्ड्स हैं। उपरोक्त वर्ड्स का सामना 10 पूर्णतः उपरोक्त वर्ड्स, निवेश के मॉडल में लिखे हुए। उपरोक्त वर्ड्स के 10 अंक उपरोक्त वर्ड्स।

बाग (वी) गूढ़ रचना रेट ही देने मिश्र रचना का मार्ग

1. सभ्यता यौगिक विद्वानों : पवाचित्त, विज्ञानिक, राजनीतिक
2. गूढ़ रचना देने ही दीर्घ विश्व विद्वानों
3. सिद्ध पत्ता का विचार : गूढ़ आंगण देने ही देने गूढ़ आंगण देने उद्देश्य

बाग (अ) सिद्ध पत्ता का विचार : गूढ़ उत्साहित देने गूढ़ न्योतित मिश्र उद्देश्य

1. गूढ़ कौशल्य पीड़ित देने गूढ़ उत्साहित उद्देश्य
2. गूढ़ डेग्रेज़ विधि : विषय ही अंग्रेज देने दिविज्ञान वर्तमान
3. गूढ़ उद्देश्य सिद्धां : धार्मिक मिलावट

बाग (ज) धार्मिक संबंध

1. धार्मिक भाषा, लंबाई के बाद
2. मर्यादा ध्यान का भाषा मर्यादा
3. समाधान
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–VI) (Session 2019-20) (Faculty of Humanities and Religious Studies)

1. सामर्थ्यी लघुविच
2. सिद्ध महा लघुविच
3. गुरुप्रभात सुप्राच लघुविच

ढंगा (च) संवेद ग्रंथकं सङ्के 10 थूमदूर

मुख्यीमां थूमदूरं ची मुखी:

English:


Punjabi:

1. अमृत, समर्थ सिद्ध, धर्म दीर्घा लघुविच, अमृत थूमदूर, पटिएल, 1974.
2. ग्रंथ सिद्ध (मंडप), धर्म (ब्रह्म सिद्ध बाणी आदिनार ब्रह्म) धर्मी लघुविच अमृतम, लुपिएल, 1962.
3. -------, उन्न सिद्ध, सिद्ध हिंदीतम, धर्मी पुलिहिोतमती, पटिएल, 2013.
4. ब्रजा सिद्ध, धर्म दा हिंदीतम, धर्म पुलिहिोतमती, टीमट चुंब चेवड, चंढीगढ़, 1983.
5. देशमहा, लघुविच चेवड, समर्थी चेवड दिलीं (मंडप.), पुलिहिोत सिद्धनां, ब्रजा राघव रेह युलिहिोतमती, अभिभाष, 2005.
6. नामीत सिद्ध, सिद्ध महा लघुविच, बुद्ध बुढ़ मध, लुपिएल, 1974.
7. डा.महारंजित सिद्ध, गुरुनिवास यादवांश दमभी (दिन्द साधी मध सिद्ध, मंडपां से गुरू-अलव आधारी), गुरू लघुविच रेह पुलिहिोतमती, अभिभाष, 2016.
8. डा.महारंजित सिद्ध, (मंडप.) गुरुप्रभातकं लघुव धर्म दुल रेह सिद्ध ब्रजा लघुविच, लघुव धिंदिठम, अभिभाष, 1995
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–VI) (Session 2019-20) (Faculty of Humanities and Religious Studies)

SEMIESTER–VI

PHILOSOPHY

OPT. (I) INDIAN METAPHYSICS AND EPISTEMOLOGY

Time allowed: 3 hours
Lectures to be delivered: 6 per week
Pass Marks: 35

Max. Marks: 100

Note: Instructions for the Paper Setter:-

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

Instructions for the Candidates

Candidates are required to attempt one question each from the section A, B, C, and D of the question paper and the entire section E.

Section–A

1. Introduction and Salient Features of Indian Philosophy.
2. A Brief Introduction of Vaidik Darsan and Avaidik Darsan (Orthodox and Heterodox Systems of Indian Philosophy).

Section–B

6. Shankaracharya on Maya and Avidya.

Section–C

9. Vaisesika Darsan: Six Categories
12. Yoga Darsan: Nature of Citta and Samadhi

Section–E
Ten short answer type questions.

Recommended Readings:

English Books

2. Chatterjee and Datta, *An Introduction to Indian Philosophy*, University of Calcutta, Calcutta, 1968.
7. Heera Bhupinder, *Uniqueness of Carvaka Philosophy in Indian Traditional Thought*
SEMESTER–VI

Punjabi Books
2. ਪੰਜਾਬ, ਸੁੰਦਰ ਰਾਧਾ, ਅਨਾਹਿਰ ਲੇਖਕਾਂ, ਪੰਜਾਬ ਸਟੇਟ ਪੁੱਢੀਨਵਰ ਸਿੰਘ, ਚੇਂਡੀਗੜ੍ਹ, 1974.
4. ਕਾਲਵੇਟੂ, ਟੈਲੀਵਿਜ਼ਨ ਦਿੱਖਣੀ ਦੇ ਅਨਾਹਿਰ ਲੇਖਕਾਂ ਸਾਮਨਾ ਰਵਾਇਤੀ ਪੰਜਾਬੀ ਮਸਲਾਵਾਂ ਵੇਨਵੇਂ, ਚੀਨੀ।

Hindi Books
1. ਮੁਦਰਾ, ਬੀਬੀਚ ਪੁ਷ਤ, ਅਨਾਹਿਰ ਲੇਖਕਾਂ ਦੀ ਤਖਤ-ਧੀਆਨ, ਮੰਡੀਲਾਲ ਵਹਾਂਮੀ ਚਾਂਸ, 1963.
2. ਭੀਮਾਰ, ਪ੍ਰਏਸ ਅਮਰੀ. , ਅਨਾਹਿਰ ਲੇਖਕਾਂ, ਹੂਂਦਵਰ ਪੁਸਤਕ, ਵਿੱਚੀ ਮੰਸਤਾਲ, ਰਥਲਡੂ, 2003.
SEMMETER–VI

PHILOSOPHY

OPT. (II) AESTHETICS

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

Note: Instruction for the Paper Setter:-

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

Instructions for the Candidates

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

Section–A

2. Form and Content in work of Art
3. Concept of Beauty and Sublime (Kant).

Section–B

4. Rasa Siddhanta in Indian Aesthetics.
6. Aesthetics and Creativity in GurSikh Matt

Section–C

7. Architecture
8. Sculpture
9. Painting and Drawing

Section–D

10. Music
11. Poetry
12. Theatre

Section–E

Ten Short answer type questions.
Recommended Readings

English Books

Punjabi Books
2. ਚਮਲ, ਮਿਸਤੀ, ਮੈਮਕਲ ਸਾਮਨਲ, ਪੰਜਾਬੀ ਪੂਰਬਿਕਾਮਿਤੀ, ਪਟਿਅਲਾਹ, 1997.
4. ਚਲਣੀਵੇਲ ਹੈਕ (ੜ੍ਹ.), ਸਤਨ ਸਾਮਨਲ ਵਲੀ ਬੁਰਕਾਕ ਡੇਬਾ, ਬੰਗਿਆ ਸਤਨ ਦੇਵ ਪੂਰਬਿਕਾਮਿਤੀ, ਅਬਹਿਰੂ, 1987.

Hindi Books
1. तौरे (डः.), कांडवाली मैंचल समन्वय वै दुर्भिवट, केगरल दक्षिणमित्र उद्धर, दिल्ली, 1984.
2. सचन, उत्तरदास लल, मैंचल समन्वय, भारती धार्मिक, नैतकविता, नेपठ, 1999.
SEMMESTER–VI

ZOOLOGY

Paper Zoo–VI (Option i/ ii/ iii)

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Options:-
(i) Medical Zoology & Medical Laboratory Technology
(ii) Economic Entomology
(iii) Inland Fisheries (Aquaculture)
Max. Time: 3 Hrs.  
Max Marks: 35

Instructions for the Paper Setters:
1. Question paper should be set strictly as per the topics in the syllabus.
2. The question paper will comprise of two sections.
3. Section A will be compulsory and will have 7 short answer type questions (one mark each).
4. Section B will have 8 questions including two questions from each unit. Candidates shall be required to attempt 4 questions, one from each unit. All questions shall have equal marks. (7 marks each)

UNIT-I
1. Introduction of Parasitology (various terminologies in use).
2. Brief introduction to pathogenic microbes, viruses, Rickettsiae, spirochaetes and bacteria.
3. Brief accounts of life history, mode of infection and pathogenicity of the following with reference to man; prophylaxis and treatment:
   a) Pathogenic protozoa: Entamoeba, Trypanosoma, Leishmania, Giardia, Trichomonas and Plasmodium.
   b) Pathogenic helminthes: Fasciola, Schistosoma, Echinococcus, Ancylostoma, Trichinella, Wuchereria, Dracunculus and Oxyuris.

UNIT-II
4. Life cycle and control measures of arthropod vectors of human disease: Malaria (Anopheles stephens, A. culicifaces, Yellow fever, Dengue, Dengue haemorrhagic and fever Chicken gunea. (Aedes aegypti A. Albopicuts); Filariasis (Culex pipien satigeans) Mansonia sp. Japanese Encephalitis (C. trinanelorhynchus); Plague (Stenophalide cheopis) and Epidemic Typhus (Pediculus spp).
5. Epidemic diseases, such as Typhoid, Cholera, Small pox; their occurrence and eradication programs.

UNIT-III
6. Brief introduction to human defence mechanisms.

UNIT-IV
8. Antigen and antibody interactions-Serodionagstic assays (Precipitation, agglutination immunodiffusion, ELISA, RIA)
9. Vaccines
Suggested Readings:

3. Cheesborough, M.(1987), Medical Laboratory Technology for Tropical countries (2nd ed), Butlerworth and Co., Ltd.
Instructions for the Paper Setters:
1. Question paper should be set strictly as per the topics in the syllabus.
2. The question paper will comprise of two sections.
3. Section A will be compulsory and will have 7 short answer type questions (one mark each).
4. Section B will have 8 questions including two questions from each unit. Candidates shall be required to attempt 4 questions, one from each unit. All questions shall have equal marks. (7 marks each)

UNIT-I
Laboratory safety rules, hazards and precautions during sample collection and laboratory investigations.
Laboratory Techniques: Colorimetry, Microscopy, Autoclaving, Centrifugation and Spectrophotometry

UNIT-II
Collection, transportation and preservation of different clinical samples.
Haematology, collection of blood (venous and capillary), anticoagulants (merits and demerits), Romanowsky’s stains, total RBC count, erythrocyte sedimentation rate, TLC, DLC, platelet count

UNIT-III
Bacteriology: sterilization (dry heat, moist heat, autoclave, filtration), disinfection, staining techniques, (gram stain, AFB stain, etc), culture media (defined and synthetic media & routine laboratory media), bacterial culture (aerobic and anaerobic) and antibiotic sensitivity.

UNIT-IV
Histopathology: Common fixatives and staining techniques.
Biochemistry: Principal/theory and significance of estimation of urea, sugar, cholesterol, creatinine, enzymes (transaminase, phosphatase, amylase and lipase), uric acid in blood, estimation of proteins, sugar, bile salts, ketone bodies in urine and liver function test.
Suggested Readings:

3. Cheesborough, M.(1987), Medical Laboratory Technology for Tropical countries (2nd ed), Butlerworth and Co., Ltd.
SEMESTER–VI

ZOOLOGY

Practical–VI (Related to (Option-i) ZOO–VI A and ZOO–VI B)

Time: 3hrs.                                Max. Marks: 30

Important Note for Practical:
1. Candidates will be required to submit their original note books containing record of their laboratory work.
2. Wherever possible, students must be taken out for excursion to the field (Zoological gardens, sea shores, ponds and hill stations etc.) to study habitat and ecology of the animals.
3. As per the latest UGC guidelines the dissections may please be avoided. In no case an animal falling under the categories of wildlife protection act 1972 should be caught or dissected. The rules of the Prevention of cruelty to Animals act 1960 should be familiar to all who are teaching the zoology courses. The guidelines on this issue are also available on the UGC website: www.ugc.ac.in

1. Demonstration of safety rules in laboratory like proper handling of patients, specimens and disposal of syringes, needles etc.
2. Demonstration of the use of autoclave, centrifuge and spectrophotometer.
3. Cleaning and sterilization of glass ware, using hot air oven, autoclave etc.
5. Preparation of thick and thin blood smear.
6. Counting of WBC, RBC and DLC.
7. Study of permanent slides and specimens of parasitic protozoans, helminthes and arthropods mentioned in the theory syllabus.
8. ESR and haematocrit

Demonstration of fixation, embedding, cutting of tissue sections, and their staining (routine haemotoxylin and eosin).

Visit to a pathology Lab and preparation of report.
Note:- Some changes can be made in the practicals depending on the availability of material.

Guidelines for conduct of Practical Examination:

1. Write down the principle and working of the given equipment. 5
2. Write down the procedure, precautions and perform the experiment for physico-chemical examination of urine/ haematology. 5
3. Write down the procedure for histological histochemical preparation. 5
4. Identification, pathogenicity and host of parasitic organism. 5
5. Estimation of blood sugar/urea/cholesterol/ protein in the given sample. 5
6. Viva-voce and practical file. 5
SEMINAR–VI
ZOOLOGY
ZOO-VI A: Option-ii: Economic Entomology-1
(THEORY)

Max. Time: 3 Hrs.  Max Marks: 35

Instructions for the Paper Setters:
1. Question paper should be set strictly as per the topics in the syllabus.
2. The question paper will comprise of two sections.
3. Section A will be compulsory and will have 7 short answer type questions (one mark each).
4. Section B will have 8 questions including two questions from each unit. Candidates shall be required to attempt 4 questions, one from each unit. All questions shall have equal marks. (7 marks each)

Section-A
1. Systematic position, habits and nature of damage of the following pests of crops and vegetables:
   a) Sugarcane:
      1. Sugarcane leaf hopper (*Pyriilia perpusila*)
      2. Sugarcane top borer (*Scirpophaga niovella*)
      3. Sugarcane stem borer (*Chilotrea infuscabella*)
      4. Along with life cycle and control of *Pyriilia perpusila* (Sugarcane leaf hopper).
   b) Cotton:
      1. Pink bollworm (*Pectinophora gossypiella*)
      2. Red cotton bug (*Dysdercus cingulatus*)
      3. Cotton grey weevil (*Myllocerus maculosus*)
      4. Surface grasshopper (*Chrotogonus trachypterus*)
      5. Cotton jassid (*Empoasca devastans*)
      6. Along with life cycle and control of Pink boll worm (*Pectinophora gossypiella*)

Section-B
1. Paddy:
   1. Rice gundhy Bug (*Leptocorisa varicorni*)
   2. Rice grasshopper (*Heiroglyphyus bania*)
   3. Rice Hispa (*Dicladiospa armigera*)
   4. Along with life cycle and control of gundhy bug (*Leptocorisa varicorni*).

Section-B
1. Wheat stem borer (*Sesamia inferens*).
2. Termites
3. Wheat Aphid and Jassid
4. Along with life cycle and control of Wheat stem borer (*Sesamia inferens*).
Section-C

e) Vegetables:
  1. Red pumpkin beetle (*Aulacophora foveicollis*)
  2. Pumpkin fruit fly (*Dacus cucurbitae*)
  3. Hadda beetle (*Epilachna vigintioctopunctata*)
  4. Along with life cycle and control of pumpkin fruit fly (*Dacus cucurbitae*)

f) Pests of stored grains: Systematic position, habits and nature of damage of the following pests of stored grains:
  1. Pulse Beetel (*Callosobruchus maculatus*)
  2. Rice weevil (*Sitophilus oryzae*)
  3. Khapra beetle (*Trogoderma granarium*)
  4. Rust red flour beetle (*Tribolium castaneum*)
  5. Rice moth (*Corcyra cephalonica*)
  6. Lesser grain borer (*Rhizopertha dominica*)
  7. Along with life cycle and control of Pulse Beetel (*Callosobruchus maculatus*)

Section-D

2. **Useful Insects**: Principles of following industries-

   1. Sericulture,
   2. Apiculture
   3. Lac culture industries.

Suggested Reading Material:

Instructions for the Paper Setters:
1. Question paper should be set strictly as per the topics in the syllabus.
2. The question paper will comprise of two sections.
3. Section A will be compulsory and will have 7 short answer type questions (one mark each).
4. Section B will have 8 questions including two questions from each unit. Candidates shall be required to attempt 4 questions, one from each unit. All questions shall have equal marks. (7 marks each)

Section-A
I. Systematic position, disease caused and control of the following pests of Medical and Veterinary importance:
1. Mosquitoes
2. Sand fly (Phlebotomus minutus)
3. House fly (Musca domestica)
4. Horse fly (Tabanus striatus)
5. Blow fly (Calliphora erythrocephala)
6. Warble fly (Hypoderma lineatum)
7. Fleas
8. Lice

Section-B
II. Systematic position, disease caused and control of the following pests of Medical and Veterinary importance
1. Lice Poultry louse (Menopon gallinae)
2. Sucking louse (Haematopinus suryesternus)

III. Mouth parts of:
- Red cotton bug
- Grasshopper
- Cockroach
- Mosquito
- Honey bee
Section-C

IV. Biological control of insect pests.
   Principles and history
   Modern status

V. Recent methods of pest suppression;
   Sterile insect release methods
   Behavioral control involving the use of pheromones
   Integrated pest control.

Section-D

VI. Chemical Control:
   History
   Principle of chemical control
   Categories of pesticides
   Important pesticides of each category
   Insect repellents
   Attractants.

Suggested Reading Material:

SEMESTER–VI

ZOOTOLOGY

Practical–VI (Related to (Option-ii) ZOO-VI A and ZOO-VI B)

Time: 3 Hrs.  Marks: 30

Important Note for Practical:

1. Candidates will be required to submit their original note books containing record of their laboratory work.
2. Wherever possible, students must be taken out for excursion to the field (Zoological gardens, sea shores, ponds and hill stations etc.) to study habitat and ecology of the animals.
3. As per the latest UGC guidelines the dissections may please be avoided. In no case an animal falling under the categories of wildlife protection act 1972 should be caught or dissected. The rules of the Prevention of cruelty to Animals act 1960 should be familiar to all who are teaching the zoology courses. The guidelines on this issue are also available on the UGC website: www.ugc.ac.in

1. Feeding Apparatus: Mouth parts of honey bee, butterfly and red cotton bug by preparing permanent mounts.
2. A study of different types of larvae and pupae of insects.
4. External morphology and identification marks of the following stored grain pests: *Sitophilus oryzae* (Rice Weevil), *Tribolium castaneum* (Rust red flour beetle), *Rhizopertha dominica* (Lesser grain borer/susri), *Trogoderma granarium* (Khapra beetle), *Callosobruchus maculatus* (Pulse beetle/Dhora).
5. External morphology and identification marks of the following insects of Medical/Veterinary importance–Mosquitoes (*Culex, Anopheles* and *Aedes*), house fly, blow fly, warble fly and horse fly.
6. A study of life stages of silkworm and honeybees.
7. To demonstrate different techniques and equipments for collection, storage and preservation of insects.
9. Visit to apiary and godowns for study of infestation.
10. Assignment on local insect fauna.
Note:- Some changes can be made in the practicals depending on the availability of material.

Guidelines for conduct of Practical Examination:

1. Identify of given spots, give two points for identification.  
2. Draw & write a note on the life cycle of given specimen.  
3. Identify the instrument and write down its working and application.  
4. Project report on apiary/godowns/grainary.  
5. Viva-voce and practical file.
SEMMESTER–VI

ZOOLOGY

ZOO-VI A: Option-iii: Inland Fisheries-I
(THEORY)

Max. Time: 3 Hrs. Max Marks: 35

Instructions for the Paper Setters:
1. Question paper should be set strictly as per the topics in the syllabus.
2. The question paper will comprise of two sections.
3. Section A will be compulsory and will have 7 short answer type questions (one mark each).
4. Section B will have 8 questions including two questions from each unit. Candidates shall be required to attempt 4 questions, one from each unit. All questions shall have equal marks. (7 marks each)

Section-A
History of inland fisheries in India.
Morphology of a typical fish (carp, cat-fish, freshwater eel, perch).
Structure of mouth of different fishes in relation to feeding habits.

Section-B
Identification and classification of important fishes of Punjab, Haryana and Himachal Pradesh.
Bionomics of Labeo rohita, Cirrhinus mrigala and Wallago attu.

Section-C
Exotic fishes: History, their introduction, morphology, their role in fish culture, impact on native fish faun.
Induced Breeding: History, Technique, Chemicals involved in induced breeding and Impact on fish culture.

Section-D
Pond culture: Construction of pond, Types of pond, Fertilization of pond and Maintenance of pond.
Aquatic weeds and their control- Both biological and chemical

Suggested Readings:


6. Legler Karl F(1962), Freshwater Fishery Biology, Wm. C-Brown Co. Dublingus IOWA, USA.


SEMESTER–VI

ZOOLEGY

ZOO-VI B: Option-iii: Inland Fisheries-II
(THEORY)

Max. Time: 3 Hrs. Max Marks: 35

Instructions for the Paper Setters:
1. Question paper should be set strictly as per the topics in the syllabus.
2. The question paper will comprise of two sections.
3. Section A will be compulsory and will have 7 short answer type questions (one mark each).
4. Section B will have 8 questions including two questions from each unit. Candidates shall be required to attempt 4 questions, one from each unit. All questions shall have equal marks. (7 marks each)

Section-A
Riverine fisheries of river Sutlej and Beas.
Reservoir Fisheries: Gobindsagar, Pong Dam

Section-B
Integration of fish farming with Duckry, poultry, piggery and dairy.
Sewage fed fisheries.

Section-C
Cold water fisheries: Mhaseer fisheries and Trout fisheries.
Fish Disease and their control: Viral, Bacterial, Fungal, Helminths, Crustacean.
Disease due to unhygienic conditions during transportation.

Section-D
Fish by-products.
Marketing of Fish: Fresh Water fish, Preservation of fish.

Suggested Readings:

6. Legler Karl F (1962), Freshwater Fishery Biology, Wm. C-Brown Co. Dublingus IOWA, USA.
SEMESTER–VI

ZOOOLOGY

Practical–VI (Related to (Option-III) ZOO-VI A and ZOO-VI B)

Time: 3hrs.                                             Marks: 30

Important Note for Practical:
1. Candidates will be required to submit their original note books containing record of their laboratory work.
2. Wherever possible, students must be taken out for excursion to the field (Zoological gardens, sea shores, ponds and hill stations etc.) to study habitat and ecology of the animals.
3. As per the latest UGC guidelines the dissections may please be avoided. In no case an animal falling under the categories of wildlife protection act 1972 should be caught or dissected. The rules of the Prevention of cruelty to Animals act 1960 should be familiar to all who are teaching the zoology courses. The guidelines on this issue are also available on the UGC website: www.ugc.ac.in

1. Morphology of a Carp, Cat fish and Perch.
2. Morphometric and meristic characters of typical fish.
   For the identification of these fishes, the candidate can use already prepared keys or they can prepare their own keys.
4. Determination of food and feeding habits of locally available fishes on the basis of stomach analysis adopting the following methods :
   a) Frequency occurrence method 
   b) Feeding intensity 
   c) Point method
5. Determination of maturity stages (both male and female) of any commercial fish (Preserved specimens).
6. Preparation of permanent slides of phytoplanktons and zooplanktons which constitute the food of commercial fishes. Their identification and study of important characters.
7. Identification of aquatic weeds of a fish pond.
8. Estimation of following chemical parameters of pond water:
   1. Temperature
   2. pH
   3. Dissolved oxygen
   4. Phosphates
   5. Total Dissolved solids
   6. Nitrates
   7. Hardness
   8. Examination of diseased fishes

9. Visit of various fish ponds and fish market.

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

**Guidelines for conduct of Practical Examination:**

1. Give salient features of the given fish/ Identification of Fish using keys. 6
2. Estimation of physico chemical parameters of pond water. 6
3. Identification of Zoo/ Phytoplanktons and their important characteristics. 5
4. Write morphometric/ meristic characters of a fish species. 4
5. Project report. 4
6. Viva-voce and practical file 5
Instructions for the Paper Setters:
There will be a total of nine questions. Question No. 1 will be compulsory and questions in this will be of short answer–type (3–4 lines). The remaining 8 questions will be set from equal distribution of the syllabus out of which candidates will be required to attempt 4 questions. All questions (including Q. No. 1) will have equal marks i.e. 7 each.

Unit-I
**Plants and Environment:** Atmosphere (gaseous compositions), water (properties of water cycle), light (global radiation, photosynthetically active radiation), temperature, soil (development, soil profiles, physico-chemical properties), and biota. Morphological, anatomical and physiological responses of plants to water (hydrophytes and xerophytes), temperature (thermoperiodicity and vernalization), light (photoperiodism, heliophytes and sciophytes) and salinity.

Unit-II
**Community Ecology:** Community characteristics, absolute and relative frequency, density and dominance, basal area and importance value index (IVI), Whittaker’s classification of biodiversity, indices of alpha, beta and gamma diversity, life forms, biological spectrum, ecological succession.

Unit-III
**Population Ecology:** Growth curves, ecotypes, ecads.

**Ecosystem:** Structure, abiotic and biotic components, food chain, food web, ecological pyramids, energy flow, biogeochemical cycles of carbon, nitrogen and phosphorus.

Unit-IV
**Biogeographical Regions of India**

**Vegetation types of India:** Forests and grasslands

**Landscape Ecology:** Definition & concept, effect of patch size and shape on biodiversity, dynamics of land use.

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

BOTANY
Paper- VIB: ECONOMIC BOTANY
(THEORY)

Time: 3 Hrs.

Theory Lectures: 3 Hours/Week Max. Marks: 35

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

Unit-I

Food Plants: Oryza sativa (Rice), Triticum aestivum (Wheat), Zea mays (Maize), Solanum tuberosum (Potato), Saccharum officinarum (Sugarcane).

Fibres: Gossypium hirsutum (Cotton) and Chorchorus capsularis (Jute).

Vegetable Oils: Arachis hypogea (Groundnut), Brassica campestris (Mustard) and Cocos nucifera (Coconut).

Unit-II

Spices: General account of Piper nigrum (Black pepper), Eugenia caryophyllum (Cloves), Cinnamomum verum (Cinnamon), Elettaria cardamomum (cardamom), Zingiber officinalis (Ginger), Curcuma longa (Turmeric), Coriandrum sativum (Coriander), Foenicum vulgare (Fennel) and Mentha arvensis (Mint).

Unit-III

Medicinal Plants: General account of Terminalia chebula (Harar), Terminalia belerica (Bahera), Azadirachta indica (Neem), Phyllanthus emblica (Amla), Aconitum napellus (Aconite), Rauwolfia serpentina (Sarpagandha), Atropa belladonna (Belladonna), Datura stramonium (Datura), Withania somniferum (Ashwagandha) and Papaver somniferum (Poppy).

Unit-IV

Beverages: Camellia sinensis (Tea) and Coffea arabica (Coffee).

Rubber: Morphology of Hevea brasiliensis (Rubber), Processing and Uses.

General account of sources of firewood, timber and bamboos.

Suggested Readings:
Suggested Laboratory Exercises

1. To determine minimum number of quadrats required for reliable estimate of biomass in grasslands through species area curves.
2. To study the frequency of herbaceous species in grassland and to compare the frequency distribution with Raunkiaer’s Standard Frequency Diagram.
3. To estimate Importance Value Index for grassland species on the basis of relative frequency, relative density and relative dominance in protected and grazed grassland.
4. To measure the vegetation cover of grassland through point frame method.
5. To measure the above ground plant biomass in a grassland.
6. To study the morphological anatomical features of hydrophytes (Hydrilla, Eichhornia) and xerophytes (Nerium, Calotropis).
7. To determine diversity indices (richness, Simpson, Shannon-Weaver) in grazed and protected grassland.
8. To estimate bulk density and porosity of grassland and woodland soils.
9. To determine moisture content and water holding capacity of grassland and woodland soil.
10. To study the vegetation structure through profile diagram.
11. To estimate transparency, pH and temperature of different water bodies.
12. To measure dissolved oxygen content in polluted and unpolluted water samples.
13. To estimate salinity of different water samples.
14. To determine the percent leaf area injury of different leaf samples collected around polluted sites.
15. To estimate dust-holding capacity of the leaves of different plant species.
16. To study the food plants: Study of the morphology, structure and simple microchemical tests of the foodstoring tissues rice, wheat, maize, potato and sugarcane. Microscopic examination of starch in these plants (excepting sugarcane).
17. To study the fibres: Study of cotton flowers, sectioning of the cotton ovules/developing seeds to trace the origin and development of cotton fibers. Microscopic study of cotton and test for cellulose.
18. To study the vegetable oils: Study of hand sections of groundnut, mustard and coconut and staining of oil droplets by Sudan III and Sudan Black.
19. To study the field visits: To study sources of firewood (10 plants)/timber-yielding trees (10 trees)/bamboos, list to be prepared mentioning special features, collection of plant based articles of common use.
20. To study the spices: Examine black pepper, cloves, cinnamon (hand sections) and opened of cardamom and describe them briefly.
21. To study the preparations of an illustrated inventory of 10 medicinal plants used in indigenous systems of medicine or allopathy: Write their botanical and common names parts used and diseases/disorders for which they are prescribed.
28. **Beverages:** Section boiled coffee beans and tea leaves to study the characteristic structural features.
29. Visit to *in situ* conservation site/Botanical Garden.

**Suggested Readings (for laboratory exercises)**

SEMESTER–VI

MICROBIOLOGY

APPLIED MICROBIOLOGY–II
(THEORY)

Time: 3 Hours

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

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

UNIT–I

UNIT–II

UNIT–III

UNIT–IV
4. Vitamins and Amino Acids Production by Microorganisms: Riboflavin (B2) and cyanocobalamin (B12), glutamic acid. Production of antibiotics: Penicillin and streptomycin.

Books Recommended:
1. Production of amylases and proteases in liquid medium using the selected organisms.
2. Assay of various crude enzyme preparations
   a. Amylase
   b. Protease.
3. Production of alcohol from molasses and cereal grains.
4. Immobilization of microbial cells and enzyme preparations by calcium alginate entrapment method.
5. Comparison of submerged and solid state fermentation techniques for amylase production.
SEMMESTER–VI

INDUSTRIAL MICROBIOLOGY
(VOCATIONAL)

FERMENTATION TECHNOLOGY
(THEORY)

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

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

UNIT–I
1. The fermentation industry, Selection and development of Industrial Microorganisms,
Fermentation media, aeration, pH, temperature, Batch versus continuous culture, Immobilized
enzymes & their applications.

UNIT–II
2. Production of some Microbial Enzymes; Proteases, Amylases, Cellulases, Microbial Production
of alcoholic beverages; Beer, Wine and Whisky.

UNIT–III
3. Production of Organic acids; Acetic Acid, Citric Acid, Lactic Acid, Gibberellic Acid, Production
of Amino Acids; Lysine, Glutamic Acid.

UNIT–IV
4. Downstream processing and product recovery; Production of Pharmaceuticals Antibiotics:-
Tetracycline & Penicillin, Vaccines, Vitamins. Bioleaching of metals, microbial treatment of Oil
Pollution and Oil recovery.

Books Recommended:-
Time: 4 Hrs. 

1. Demonstration for the cultivation of mushrooms.

2. Estimation of microbial ethanol production.

3. Isolation of actinomycetes from soil.

4. Isolation of thermophilic micro organisms from soil.

5. Immobilization of microbial cells and enzyme preparations by sodium alginate entrapment method.
SEMESTER–VI

MICROBIAL & FOOD TECHNOLOGY

QUALITY CONTROL OF FOODS PRODUCTS
(THEORY)

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

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

UNIT–I
Definitions of Quality, Quality control, Total Quality Management, Quality Assurance. Organization of quality control department & its relation with other departments of industry system and development of HACCP, GMP guidelines.

UNIT–II
Food Laws, Grades & Standards, PFA, FPO, BIS, SWMA, Export (Quality Control & Technology) act, AGMARK, ISO 9000 standards, consumer Production Act. Sugar control order, vanaspati order, Meat Food Products order.

UNIT–III
Methods for microbiological examination of foods, (Direct examination, cultural techniques), enumeration methods, Alternate indirect methods (dye reduction, electrical, ATP), rapid methods for detection of specific organisms & toxins (immunological/molecular methods).

UNIT–IV
Chemical analysis of cereals, milk, eggs, meat, fruits & vegetables. Sensory analysis–General testing conditions, taste, odor, aroma & other senses. Descriptive, Discrimination & Acceptance tests. Taint tests, Layout & requirements of sensory test laboratory. Types of panels the requirements of panel members.

Recommended Books:
3. Krammer A & Twigg B.A. Quality Control in Food Industry Vol. II.
SEMESTER–VI
MICROBIAL & FOOD TECHNOLOGY
(PRACTICAL)

Time: 4 Hours

1. Platform tests for milk
2. Detection of additives/preservatives/neutralizers in milk.
4. Physical examination of cereals.
5. Proximate composition of wheat flour.
6. Microbiological examination of milk by MBRT & SPC.
7. Determination of % salt and reducing sugars in fruits & vegetable products.
8. Grading of eggs by candling.
SEMESTER–VI

BIOINFORMATICS (VOCATIONAL)

STRUCTURAL BIOLOGY AND MOLECULAR MODELLING
(THEORY)

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

Instructions for the Paper Setters and Candidates:
1. There will be a total of 9 questions.
2. Question 1 will be compulsory and will be of 10 short answer type.  \((1\frac{1}{2} \times 10 = 15)\)
3. The remaining 8 questions shall include 2 questions from each unit. Candidates shall be required to attempt 1 question from each unit. All questions shall have equal marks.  \((15 \times 4 = 60)\)

UNIT–I

UNIT–II
Protein Architecture: Motifs, Domains, classification of three dimensional structures in Brook haven protein databank (Pfam, SCOP, CATH). Secondary structure prediction: Chou Fasman, GOR. Protein Motifs and Domain Prediction (using Multiple sequence alignment, Regular expressions and statistical modelling), Prediction of three dimensional structure of proteins (Homology Modelling).

UNIT–III
Drug Design process, Computer aided drug design (Structure based drug design, Ligand based drug design), Quantitative structure activity relationship: QSAR Descriptors, Development of Hansch Equation, ADMET Prediction.

UNIT–IV
Empirical force fields for trimolecular simulations, Molecular Dynamics simulations techniques, Simulated Annealing, Conformational Analysis, Calculation of relative free energy using simulation techniques.

List of Books:
SEMESTER–VI

BIOINFORMATICS (VOCATIONAL)

LAB IN STRUCTURAL BIOLOGY AND MOLECULAR MODELLING
(PRACTICAL)

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

- Discovering motifs from DNA or Protein Sequences using MEME.  
- Homology Modelling using SWISS-MODEL  
- To analyze protein sequence using Secondary Structure prediction methods: GOR, CHOU-FASMAN  
- To retrieve various structures of proteins from RCSB, their classification system using CATH/SCOP.  
- To carry out molecular dynamics simulation on a protein  
- To carry out rigid body docking between a protein and ligand
ENVIRONMENTAL BIOTECHNOLOGY

UNIT I

Renewable and non-renewable resources, What is renewable should be bioassimilable biodegradable;
Major consumer items: Food, fuel and fibres, Conventional fuels and their environment impact:
- Methogenic bacteria and biogas.
- Microbial hydrogen production, Microbial bioconversion, biotransformation, beer & wine production.
- Microbial mining, metalurgy, BOD & COD, environmental degradation and role of biotechnology in sustainable development. Environmental microbiology in chemical and other industries.
- Conversion of sugars to ethanol. The gasohol experiment.
- Solar energy converters-Hopes from the photosynthetic pigments.
- Plant based petroleum industry.
- Cellulose degradation for combustible fuel.
UNIT–II
Biotechnological inputs in producing good quality nature fibres - Transgenic sheep and transgenic plants, Microbiological quality of food and water, Treatment of municipal waste and industrial effluents and waste water management, Degradation of pesticides and other toxic chemicals by microorganisms, Thuringenesis toxin as a natural pesticide, Biological control of other insects swarming the agricultural fields, Enrichment of ores by microorganisms, Biofertilizers and organic farming. Nitrogen fixing microorganisms enrich the soil with Assimilable nitrogen.

PLANT BIOTECHNOLOGY

UNIT–III
Introduction to in vitro methods. Terms and definitions. Use of plant growth regulators, Beginning of in vitro cultures in our country, Ovary and ovule culture, in vitro Pollination and fertilization. Embryo culture, embryo rescue after wide hybridization, and its applications. Introduction to the processes of embryogenesis and organogenesis and their Practical applications, Clonal, multiplication of elite species using Micropropagation methods via axillary bud, shoot-tip and meristem culture.

UNIT–IV
Haploids and their applications. Somaclonal variations and their applications, Endosperm culture, production of triploids and their Practical applications, Single-cell suspension cultures and their applications in selection of variants.

UNIT–V
Books Recommended:


SEMESTER–VI

BIOTECHNOLOGY (VOCATIONAL)

ENVIRONMENTAL BIOTECHNOLOGY AND PLANT BIOTECHNOLOGY

(PRACTICAL)

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

Preparation of Media (simple and complex) significance of sterilization, selection of explant.
Initiating plant tissue culture: (differentiation of explants).
Growth of plant cells into undifferentiated callus mass.
Raising plant cell suspension cultures in vitro.
Monitoring Microbial contamination (bacteria, fungi and mycoplasma)/Sterilization techniques:
Theory and Practical.
- Glass ware sterilization
- Media sterilization
- Laboratory sterilization
Demonstration/operation of large scale fermenters
Screening, isolation and selection of cellulolytic microorganism B.O.D. determination

Books Recommended:
SEMESTER–VI
EDUCATION
MODERN INDIAN EDUCATION

Time: 3 Hours
Max. Marks: 100

Instructions for the Paper Setters:

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

UNIT–I
1. Meaning & aims of Elementary Education
2. Universalization of Elementary Education – Need & importance and its problems

UNIT–II
1. Meaning & Aims of Secondary Education
2. Vocationalization of Secondary Education – Meaning, Need & importance and its problems

UNIT–III
1. Role of Sarv Shiksha Abhiyan in strengthening Elementary Education
2. Right to Education Act – 2009

UNIT–IV
1. Functions of PSEB, CBSE, ICSE
2. Functions of NCERT, SCERT, UGC

UNIT–V
This Unit (V) will consist of 10 short type questions to be set from the entire syllabus of first four Units (I, II, III, IV)
Books Recommended:


HUMAN RIGHTS

WOMEN RIGHTS AND HUMAN RIGHTS

Time: 3 hours

Max. Marks: 100

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

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

UNIT–I
Social construction of Gender

UNIT–II
Sex and Gender

UNIT–III
Understanding Patriarchy

UNIT–IV
Laws Institutions and women’s rights

UNIT–V
Women’s Political participation and Representation in India

UNIT–VI
Gender Justice
Recommended Books:

7. Sharma Urmila, Women and Human Rights, Shalab Book House, Merrut
SEMESTER–VI

DAIRY FARMING (VOCATIONAL)
(THEORY)

Time: 3 Hours
Max. Marks: 100
Periods/Week: 6
Theory Marks: 50
Instructions for the Paper Setters:
Practical Marks: 50

1. Question paper should be set strictly according to the syllabus and in Punjabi language.
2. The language of questions should be straight and simple.
3. Theory paper shall consist of three parts:
   a) Ten short compulsory questions of two marks each requiring short replies up to five lines each. (5x2=10 Marks)
   b) Five questions of six marks each requiring short replies shall be asked. The candidate has the choice to attempt eight questions. (4x6=24 Marks)
   c) Two questions of descriptive type requiring five pages for each answer shall be asked. The candidate has the choice to attempt one question. (16x1=16 Marks)
4. The question paper should cover the whole syllabus.

1. Marketing of Milk and Milk Products

2. Role of Govt. departments and institutions in Dairy Farming
Role of organizations like Animal Husbandry Department, Dairy Development Board, National Dairy Research Institute, Banks, Co-operatives, P.A.U., GADVASU, Milk Producers’ Cooperative Societies, Milk Plants, Private milk plants, their role as stake holders.

3. Operation Flood

4. Dairy Farm Record Keeping and its importance.
SEMMESTER-VI

DAIRY FARMING (VOCATIONAL)
(PRACTICAL)

Time: 3 Hours
Periods/Week

Marks: 50

Distribution of Marks:
Assignment 10 Marks
Practical Note book 10 Marks
Four Visits to Dairy Farms 10 Marks
Oral Examination 10 Marks
Written Test 10 Marks

Note: Preparation of Practical Note book and Dairy Farm Assignment is compulsory
1. Separation of Cream from Milk.
2. Preparation of Curd, butter, ghee, cheese and khoa.
4. Preparation of Dairy Farm Loan Scheme for Submission to credit Agencies.
5. Judging of lactating Cows and Buffaloes.

Text Books:
5. Handbook of Animal Husbandry Published by ICAR New Delhi.
6. Thronton’s Meat Hygiene by Thronton.
SEMESTER–VI

RSL–321 RUSSIAN

PAPER–I (Written) GRAMMAR & an Introduction to Literature

Time: 3 Hrs.                               Max. Marks: 80

1. Grammar from text-book                          Marks: 30

2. Composition (one out of four topics)                           Marks: 10
   - Revision of all cases in singular & plural (nouns, adjectives & pronouns)

Composition Topics:  моя семья,  емного о себе,  выходной день,  никулы,  юбимый пис тель,  очень я изуч ю русский язык,  ой препод в тель.  (One out of given three)

Introduction to Literature

Biography of the writers: A S Pushkin, L. Tolstoy, M. Gorky, M. Sholokhov, M. Lermontov, Gogol, Chekhov. (One out of given three to be attempted)                           Marks: 10

1. Three questions out of five based on the works of these writers, like, “Tolstii u Tonkii, “Pepe”, “Sudba Cheloveka”, “Ya vas lubil”, “Parus”.                           Marks: 30
SEMESTER–VI

RSL–321: RUSSIAN

PAPER–II (ORAL)

Max. Marks: 20

- Reading of a text  Marks: 05
- Conversation      Marks: 10
- Retelling of a small text in Russian Marks: 05
(Besides general talk it includes questions on the prescribed text of Q.1)

Prescribed Text-Book:
“RUSSIAN” – by Wagner V.N. & Ovsienko Y.G. (Lessons 53 to 62)

Recommended Books:
1. Langenscheidt Pocket Russian Dictionary.
2. Russian for Indians by Hem Chandra Pande.
FRL–321  FRENCH

PAPER–I (WRITTEN) (COMPOSITION, GRAMMAR & COMPREHENSION)

Time: 3 Hrs.  Max. Marks: 80

A. Composition
   i) An official letter in French (one out of two)  Marks: 10

B. Grammar
   i). Questions on applied grammar pertaining to the text  Marks: 30
       (Exercises from the textbook)

   Topics for official letters:
   i. Demande d’emploi
   ii. Demande de renseignements p. ex.:
       - Alliance Francaise
       - Ambassade de France
       - Bureau de tourisme
       - Agence de voyage
   iii. Commander des articles
   iv. Demander de conge

TRANSLATION:

1. Translation from French into English. (Passage)  Marks: 10
2. Translation from English into French. (Short sentences)  Marks: 10

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

1. Questions from main texts of lessons from the textbook, excluding articles, extracts etc. given after the lessons.  
   (5 out of 7 questions to be attempted)  
   Marks: 10

2. Objective type questions pertaining to the various aspects of French civilization covered in the textbook. (10 questions out of 15 in the form of fill in the blanks or multiple choices to be attempted).  
   Marks: 10
SEMESTER–VI

FRL–321: FRENCH

PAPER–II (ORAL) Max. Marks: 20

- Reading of a text Marks: 05
- Conversation Marks: 10
- Retelling of a small text in French Marks: 05

Prescribed Textbook:
“CONNEXIONS-III” (Units 7-12) by Regine Merieux & Yves Loiseau, Published by Didier

Recommended Book:
Nouveau Sans Frontières III by Philippe Dominique & Jacky Girardet
URL–302: HISTORY OF URDU LITERATURE

Time: 3 Hours Max. Marks: 100

1. Urdu ka Ahd-e-Zareen, with special reference to the following:
   Zauq, Ghalib, Momin and Zafar

2. Urdu Sha’iri Ke Naye Rujhanat with special reference to the following poets:
   Azad, Hali, Chakbast and Iqbal

3. Taraqqi Pasand Tehrik Aur Urdu Sha’iri with special reference to the following poets:
   Majaz, Faiz, Ali Sardar Jafri and Jazbi

4. Urdu Nasr Ka Irtiqa Aur Fort William College

5. Urdu Nasr Ka Ahd-e-Zareen with special reference to the following:
   Sir Syed Ahmad Khan, Shibli Naumani and Hali

6. Modern Urdu Friction:
   General information about the contribution of:
   Krishan Chander, Rajinder Singh Bedi, Qurratul Ain Haider and Ismat Chughtai and Kanhiya Lal Kapoor
BOOKS RECOMMENDED:


2. Tarikh Adab Urdu by Ram Babu Sexena, Educational Book House, AMU Market, Aligarh – 202002 (UP)


4. Urdu Zaban-o-Adab ka Khaka by Khushhal Zaidi, Edara Bazme Khizre Rah, 80-Ghaffar Manzil Jamianagar, New Delhi, 110025.
PRL–302: COMPOSITION AND GRAMMAR

Time: 3 Hours  Max. Marks: 100

Composition:

(a) **Composition:** Essay in Persian on any one of the following:


(b) **Grammar:** Definitions and examples of the following:

1) **ASNAF-E-SHA’RI:** Ghazal, Qaseeda, Masnavi, Rubai etc.

2) **AJZA-E-SHER:** Matla, Maqta, Husan-e-Matla, Qafiya, Radeef, Tashbeeb, Gurez, Dua, Rukhsat, Salam-o-Noha

3) **SANAE-O-BADAIE:** Tajnis (Tajnis-e-Taam, Tajnis-e-Murakkab, Tajnis-e-Khatti)

Talmih, Ista’ara, Kinaya, Tashbeeh, Ihaam, Mubaligha, Husan-e-Ta’leel,

Tajahul-e-Arifana, Siyaqat-ul-Adad, Mira’tun-Nazir –o- Tarse’a
BOOKS RECOMMENDED:

1. Naseem-e-Balaghat by Jalaluddin Jafri, 2- Katra Road, Allabhabad – 211002


3. Al-Mu’ajjam by Shams Qais Razi, Edara Musannifin, hydeabad.
SEMESTER–VI

SANSKRIT (ELECTIVE)

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<td>II</td>
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<td>III</td>
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SEMESTER–VI
FUNCTIONAL SANSKRIT (VOCATIONAL)

Time: - 3 hours

Maximum Marks: 100
Written: 80
Practical: 20

उक्ष & इजु = फक्ष इजुग्रका का

इजु = फुक्ष कुफ़क

5 प्रश्न देकर 3 का उत्तर देने के लिए कहा जाये। 3X20 = 60
भाग ख में 4 प्रश्न देकर 2 का उत्तर देने के लिए कहा जाये। 2X10 = 20

इक्ष्येम्पे &
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–VI) (Session 2019-20)  
(Faculty of Languages)

SEMMESTER–VI

ENGLISH (COMPULSORY)

Time: 3 Hours  Max. Marks: 50

Texts Prescribed:

Course Contents:
1. The study of the whole text of the novel, *The English Teacher*
2. The study of the following one-act plays from the prescribed book, 
*Glimpses of Theatre*
   i) “The Will”
   ii) “Villa for Sale”
   iii) “Progress”
   iv) “The Monkey’s Paw”
   v) “Sorry Wrong Number”

Essay Writing

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

The question paper will consist of three sections and the distribution of marks will be as under:
Section A: 10 Marks
Section B: 24 Marks
Section C: 16 Marks

Section–A:
I. SIX questions (three questions based on the prescribed one-act plays from the textbook, *Glimpses of Theatre* and three questions based on the novel, *The English Teacher* requiring very short answers based on the close reading of the prescribed novel and one-act plays shall be set and examinees will be expected to answer any FIVE.  
   \((2\times5=10 \text{Marks})\)

Section–B:
II. THREE questions requiring brief descriptive answers based on character, tone, plot and theme(s) in the prescribed one-act plays will be set and examinees will be expected to attempt any TWO.  
   \((6\times2=12 \text{Marks})\)

III. THREE questions on central idea, theme, tone or style etc. of the prescribed novel will be set for the students to attempt any TWO of these questions.  
   \((6\times2=12 \text{Marks})\)

Section–C:
IV. ONE question requiring the students to write an essay on one of the three given topics will be set.  
   \((1\times8=8 \text{Marks})\)

V. TWO essay type questions (one from the prescribed one-act plays and one from the prescribed novel) will be set for the students to answer any ONE of these questions.  
   \((1\times8=8 \text{Marks})\)
SEMESTER–VI
ENGLISH (ELECTIVE)
MODERN ENGLISH NOVEL

Time: 3 Hours
Max. Marks: 100

Texts Prescribed:

1. *So Many Hungers* by Bhabani Bhattacharya
2. *The Power and the Glory* by Graham Greene
3. *Background to the Study of English Literature* by B. Prasad, Macmillan India Limited
   
   (Chapters III and IV from Section-I; Chapters IV, V and VI from Section-II; Chapters IV, V and VI from Section-III)

Instructions for the Paper Setter and Distribution of Marks:

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

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

Section–A

Note: The examinees will be required to answer all the TEN questions set as per the following scheme:

1. Three very short-answer questions (approximately 5 lines each) from *So Many Hungers*
2. Three very short-answer questions (approximately 5 lines each) from *The Power and the Glory*
3. Four very short-answer questions (approximately 5 lines each) from *Background to the Study of English Literature* by B. Prasad. (Chapters III and IV from Section-I; Chapters IV, V and VI from Section-II; Chapters IV, V and VI from Section-III) The questions shall deal with simple definitions and examples of literary terms introduced in the book. (10 x2=20 Marks)
Section–B

Note: The examinees will be required to answer EIGHT questions set as per the following scheme:

1. The examinees will be required to answer THREE short-answer questions out of the FOUR questions set from the novel, *So Many Hungers*. Each answer should be written in about 10-15 sentences.

2. The examinees will be required to answer THREE short-answer questions out of the FOUR questions set from the novel, *The Power and the Glory*. Each answer should be written in about 10-15 sentences.

3. The examinees will be required to answer TWO short-answer questions out of the FOUR questions set from the prescribed book, *Background to the Study of English Literature*. (Chapters III and IV from Section-I; Chapters IV, V and VI from Section-II; Chapters IV, V and VI from Section-III) Each answer should be written in about 10-15 sentences.

Note: Questions of both theoretical and practical nature requiring understanding of literary concepts and developments may be asked. At least two questions may be set on the analysis of passages/poems that clearly exhibit the use of literary devices discussed in the book.

(8x6=48 Marks)

Section–C

The examinees will be required to answer any two questions (each of 16 marks) out of the three questions set as per the following scheme:

1. One essay type question (3 to 4 pages) from *So Many Hungers*

2. One essay type question (3 to 4 pages) from *The Power and the Glory*

3. One essay type question (3 to 4 pages) on the structure/development of a genre as discussed in B. Prasad's book. (Chapters III and IV from Section-I; Chapters IV, V and VI from Section-II; Chapters IV, V and VI from Section-III)  

(2x16=32 Marks)
SEMESTER–VI

FUNCTIONAL ENGLISH (VOCATIONAL)

OFFICE COMMUNICATION FOR BUSINESS

Time: 3 Hrs. 

Total Marks: 100
Theory Paper: 75
Practical Marks: 25

Instructions for the Paper Setter and Distribution of Marks:

Theory: 75 Marks
The question paper will consist of three sections and distribution of marks will be as under:

Section-A: 16 Marks
Section-B: 35 Marks
Section-C: 24 Marks
Practical: 25 Marks

SECTION–A

EIGHT very short answer questions requiring students to define, describe, illustrate the concepts, or terms or else requiring the students to tick the most appropriate option or a substitute word out of those provided by the paper setter in the form of multiple choice will be set. The students will be required to attempt all the questions. (8x2=16 Marks)

SECTION–B

SEVEN questions of practical nature will be set to test various skills as required in writing notices, agenda and minutes and business correspondence etc. The students will be required to attempt any FIVE of these tasks/ questions. Data for use in these tasks may be provided by the examiner. However this is not a necessary condition. (7x5=35 Marks)

SECTION–C

ONE question (with internal choice) requiring students to present a likely telephonic conversation on a business topic in the written mode. 12 Marks
ONE question (with internal choice) requiring students to write notes on description of products, services and process or customer complaint. 12 Marks

Objectives:
- To equip learners with language proficiency in business/work situations.
- To equip learners with techniques of written communication in business situations.
- To expand vocabulary and develop reading comprehension of material related to business.
- To make learners aware of features of business communication through various modes.
Course Contents:

UNIT–I

Business Communication:
- The format of business letters and faxes: Different types of formats, address, opening and closing, subject, heading, subheading, numbering etc.
- Writing letters of application with curriculum vitae/resume, letters of invitation, reply of invitation, enquiry, conference arrangements, reference, announcing forthcoming events, products, visits, making booking for trade fairs, complaints and replies to complaints, apologies, thanks, etc.
- Writing office memos and notes.

UNIT–II

Business Meetings:
- Writing notices, agendas, resolutions, minutes of business meetings, preparing notes for a meeting.

UNIT–III

Telephonic Interaction in Business:
- Taking messages, making appointments, making enquiries regarding travel bookings, hotel bookings, services, business trading (stocks etc.), placing orders, receiving orders, apologizing, complaining, giving information, etc.

UNIT–IV

Dealing with Clients and Customers:
- Describing products and services
- Describing processes
- Persuading clients
- Negotiating and agreeing

Suggestions for Teaching:

Along with training in written communication in business, role play, simulation of business situations and playing tape recorded material (e.g. Interview, telephonic conversations) may be used to equip the learners with language proficiency required in work situations. The same may be tested in practical.
There will be a practical task of 25 marks on different business tasks performed orally or in written mode. The external examiner for practical work shall also give due weightage to the training file of each student at the time of evaluation.

Books Recommended:


SEMESTER–VI

PUNJABI (COMPULSORY)

भंडारी (लघुभाषी)

भाग: 3 छटे

चुक अंक: 50

पढ़ाई आठ पढ़ाई-प्रमण

1. वांछला विकल्प (पद्यिकार द्वारा बधी)
   (मंथ, निरामया मंथ, पूजन, उदाहरण रूप में).
   वांछला विकल्प पुरुष संस्करण, आधुनिक.
   (मंथ बंगवाल, मंथ वृत्त, वांछला विकल्प नी, वांछला विकल्प नी,
    संस्करण काल, मंथ संस्करण)
   (भूमिका निर्देश किंवदंती/हिमा शमुत/मथ)

2. यह विद्यार्थीं के विद्यार्थी (महत्वपूर्ण), निर्विभाजी मंथ उदाहरण,
   विद्यार्थी मंथ पुरुषविध, आधुनिक (नैयिक नीति के विद्यार्थी/मानव माध्यम पुरुषविध/महत्वपूर्ण के विद्यार्थी)

3. (ई) स्कूल उपचार (विशिष्टता, उद्योगकेंद्रीय अथवा वर्गीय भवनिर्माण सर्किट)
   (अ) अनुशंसित माध्यम विद्यालय, विद्यालय, विद्यालय, विद्यालय, विद्यालय
   (विशेष अवधि अथवा उद्धरण)

4. निर्देशांक:
   (ई) निर्देशांक मूल केंद्र: मंगल, एक अथवा चार अवधि
   (अ) निर्देशांक विशिष्ट: विशिष्ट, अवधि उपरि धृतरा

अव-आव अथवा उच्च-विश्वास उपरि उपरि

1. पृथ्वी माध्यम उच्च-विश्वास उपरि (दे दिखें दिख) 10 अंव
2. माध्यम मध्य-विश्वास उपरि के उपरि के (दे दिखें दिख) 10 अंव
3. संघ उपचार: दुर्गा दिख दीमा दिख दिखे दुर्गा 05 अंव
4. संघ उपचार 05 अंव
5. मंडित 5 दिखें निर्देशांक निर्देशांक दिखें देवदर्शक धृतरा 10 अंव
6. धृतरा धृतरा धृतरा 1 अधि 2 उच्च उपरि उपरि दिखें मंधार दुर्गां दुर्गां 5 धृतरा दुर्गां उपरि। उपरि दुर्गां दुर्गां 50 अधि के देव ला देवे

5x2=10 अंव
SEMESTER–VI

PUNJABI (ELECTIVE)

भाषा (पिछलटी)

पाठ्य पुस्तक

बुल्ब भागः 100

1. भाषा मणिड रा दिविष्यम (1700 ई. उत्तर)
(मेध. डा. यशवंत सिंह, डा. रविशंकर सिंह देवल), लाहौल राष्ट्र एवं सिया पुरुषशक्तिमती, भारतम, 2007.
(भ) मणिड तुम्हारा, खण्ड एवं भुजा पुरुषशक्तिमतीं
(दिविष्यम तुम्हा ने पहुँच दिया प्रसन्न रुढ़ी सहित)
(फिरबद्धसाइन फिरबद्धसाइन मर्मयो पूर्ण रुढी पुरुषशक्तिमती)
पहुँच देता जाता किया किया को को पूर्ण रुढ़ी सहित, विस्तृत किया पूर्विकालिकीं से किया किया पूर्ण रुढ़ी नवद नवद नवद.

20+20 = 40 भाग

2. मणिड भरे ओर अद्भुतमत
मणिड दें उंड, मणिड भरे पांड, मणिड भरे मध्यम, मणिड भरे मध्यम, मणिड भरे मध्यम (दित दित से)
10+10 = 20 भाग

3. (भ) कान : देसिया, नेषंड, दिर्दंड, देवता, देवता, मिलिंडी, मर्मयो चाँदः भाषा मणिड भरे उंड (छत दित से)

5+5 = 10 भाग

(अ) देन चिंदुः; राटर, महरसांल, चिंदुः, नेषंडी, मर्मयो चाँदः पुरुषशक्तिमती, पूर्ण रुढ़ी उंड (छत दित दित)

10 भाग

4. दिलिख आकृति सः:
(भ) दिलिख आकृति सः: मियंडव बंध
(अ) दिलिख आकृति सः (बंध दें पूर्ण रुढ़ी)
(भाषा वादः मंदिरिका (1700 ई. उत्तर),मेध. डा. रविशंकर सेव लिखीं दे
भाषा मेध. रविशंकर सेव, मर्मयो पूरुषशक्तिमती, पुरुषशक्ति, 2007.
उदेश यही दें पहुँचे पूर्ण रुढ़ी मध्यम, चाँद, मध्यम, यही अन्यथा में अत्यंत पूर्णत।

20 भाग
SEMMESTER-VI

FUNCTIONAL PUNJABI (VOCATIONAL)

पूर्ववर्ती पंजाबी (वैकाशिक)

पंजाबी दिव विधिपुत्र ची देवठे ए अधिभाष

बृह आंब : 100

भाग भी : 2 घंटे

पूर्वतीवर्ष आंब: 80

मेरिच पूर्णिक : 20

पूर्वतीवर्ष

पूर्णिक चारी उपशिखाएं

1. विद्यार्थियों से ढेख, पौंछ, लेट आपि लिखिपुत्र ची डिशन बदले प्रिंट-आधूनिक लैट चारी बिदा नूस्केग। (पूर्वतीवर्ष चे 80 आंब ठेक्को)

2. विद्यार्थियों वेळं विधिपुत्र अतू मुखः उद्योगकपेदी वने मेरिच पूर्ण ची दुव्हे साबो। (मेरिच पूर्णिक चे 20 आंब ठेक्को)

(०) पूर्णिक चार बहे माध्यम : भिनभां चेंदक, भिनभां चे चेंद : तुलुध दिखः दी चेंद-सैल्य दिखः, तुलुध देसह, तुलुध तल्ल, दादिल वर्णित दी, भवती दी पूर्णिकस्वर बहे दी मैरिच, दादिलेवटली घरसिटूँ असे दादिल हूँ मेर वृहत ।

(अ) उद्योग दिमव उं-उं देखः नं बेटू-दाअकिं भउ नं हाहली हों बेटू-दाअकिं उं उद्योग दिमव एूं भूजे भेंगणाली बेटू-दाअकिं  ‘उं उद्योग वृहत वर्ती, दीठ वीठी भवती दी पूर्णिकच असे प्रिंट ठशः ; दीमरिच, वृहतवर्ष असे बागळ मविदिपुत्र ए अधिभाष वृहत, हैंट ए भीयाच चुचना, दीठ वीठी भवती दी बागळ भूँ दिमव उं देखः नं दिमव भूजे मैरिच वृहत ।

(ज) पूर्णिक ची देशमानुषी चेंदक, पूर्णिक दिमव चीःमेथ उं भूजे ए अधिभाष वृहत ।
SEMESTER–VI

BCG-102

भुज्जली पंजाबी

In Lieu of Punjabi Compulsory

Time: 3 Hrs.  
Marks: 50

पृष्ठ पर लिखित

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पृष्ठ पर लिखित

पृष्ठ पर लिखित
मर्मपद मुद्दतें:-
1. ‘वटनीकृत मिश्र’, साहित्य सिद्धान्त सिद्धांत, भाषाविद्या प्रगतिशीलता, धर्मभाषा।
2. ‘भाषाविद्या वटनीकृत मिश्र’, छात्र चार वेंजेली, भारतवर्ष शैक्षणिक, प्रविष्टिसिद्धांत शैक्षणिक छेड़बंद शैक्षणिक।
3. ‘मिश्र हिमालयी’ 1469-1988 यूरोप शैक्षणिक, घरेलू घरेलू शैक्षणिक, तली विभाग।
4. ‘मिश्र टिब्बिट्टस’ ब्रज चुटका (1839-2004), यूरोप शैक्षणिक भाषा प्रभाव, भाषा प्रभाव प्रभाव भाषा, भाषा प्रभाव।
5. ‘मिश्र टिब्बिट्टस’ (1526-1849) विश्व दर्शन, भारतवर्ष वृत्तान्त भविष्यवाणी, विभाग।
6. ‘पंजाब श्रीम लालित’ (1850-1910), महाशोभ मिश्र ‘श्रीमान’, यूरोप वृत्तान्त तरीके हिप्पोलिट रैंडल शिक्षा बुध भाषा।
7. ‘पंजाब ला हिंदूस्थान’, धीरजपाल मिश्र व्यंजन, विहीं बुध बींजी, मसून।
8. ‘मिश्र टिब्बिट्टस’, वैश्विक, साहित्य छेड़बंद, धर्मभाषा।
9. ‘पंजाब ला टिब्बिट्टस’ (1791-1966) मिश्र गृहस्थाली, भाषा धर्मभाषा, धर्मभाषा।
SEMESTER–VI
HINDI (ELECTIVE)

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le; & 3 ?kV$s
u kFr% ; g iz'u = rh u Hdx kqen foHkDr g kA kA

[k M&, d

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

[k M&nks

इस भाग में 12 प्रश्न पूछे जाएंगे जिन में से 8 प्रश्नों का उत्तर देना है। इन प्रश्नों का उत्तर 2 पृष्ठों की सीमा का होगा। प्रत्येक प्रश्न के 6 अंक हैं। कुल अंक 48 हैं।

[k M&r hu

इस भाग में 4 प्रश्न पूछे जाएंगे। जिनमें से 2 प्रश्न का उत्तर देना अनिवार्य है। प्रत्येक प्रश्न का उत्तर 5 पृष्ठों का होगा। कुल अंक 32 हैं।

fu/kkZfjr i k+B+d e

1. गद्य विविध: संपादक डॉ. विनोद कुमार तनेजा तथा शरीश सूद ‘निशिचंत्र’ प्रकाशक, गुरु नानक देव युविविद्यालय, अमृतसर,
2. हिन्दी साहित्य का इतिहास: आधुनिक काल–निर्धारित परिख्यत्र
   • भारतेन्दु सुबो: समान्य परिख्य
   • हिन्दी सुबो: समान्य परिख्य
   • छात्रावादःप्रमुख कविता तथा काव्यगत विशेषताएं
   • प्रगतिवादःप्रमुख कविता तथा काव्यगत विशेषताएं
   • प्रयोगवादःप्रमुख कविता तथा तात्पर्यक का मूल्योंकन
   • नई कविता: अभिप्रयाय और प्रमुख विशेषताएं
   • उपन्यास तथा कहानी विद्या विकास
   • हिन्दी आलोचना और आचार्य रामचंद्र शुक्ल
3. पारंपरिक शब्दावली: अंग्रेज़ी से हिन्दी, हिन्दी से अंग्रेज़ी (प्रभात वायू या अभिव्यक्तियां) (संलग्न)
4. निबंध: राजभाषा एवं राजभाषा हिंदी

fo’k kuq w v d foHkk u

1. प्रथम खण्ड में पांच अंग्रेज़ी से हिंदी, पांच हिंदी से अंग्रेज़ी पारंपरिक शब्दावली से संबंधित प्रश्न होंगे।
2. दूसरे खण्ड में चार प्रश्न समस्त वाक्याङ्कों के होंगे। जिनमें से दो कार्य अनिवार्य होंगे। चार प्रश्न
   पाठ्य–पुस्तक से होंगे। जिनमें से दो प्रश्न करने होंगे। दो प्रश्न इतिहास और दो निबंध से संबंधित होंगे।
   जिनमें से एक–एक प्रश्न का उत्तर अनिवार्य है। कुल आठ प्रश्नों के उत्तर देने हैं।
3. तीसरे खण्ड में दो प्रश्न पाठ्य–पुस्तक से संबंधित होंगे और दो प्रश्न इतिहास से संबंधित होंगे। जिनमें से
   एक–एक का उत्तर अनिवार्य है।
<table>
<thead>
<tr>
<th></th>
<th>Draft for approval</th>
<th>अनुमोदन के लिए मसौदा</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>For early approval</td>
<td>शीघ्र आदेश के लिए</td>
</tr>
<tr>
<td>3</td>
<td>For perusal</td>
<td>अवलोकन के लिए/देखने के लिए</td>
</tr>
<tr>
<td>4</td>
<td>For favour of orders</td>
<td>आदेश के लिए</td>
</tr>
<tr>
<td>5</td>
<td>For favourable action</td>
<td>अनुकूल कार्रवाई के लिए</td>
</tr>
<tr>
<td>6</td>
<td>For signature</td>
<td>हस्ताक्षर के लिए</td>
</tr>
<tr>
<td>7</td>
<td>Applicant details and Address</td>
<td>आवेदक का व्यःरा एवं पता</td>
</tr>
<tr>
<td>8</td>
<td>To see and Discuss</td>
<td>मिलें और विमर्श करें</td>
</tr>
<tr>
<td>9</td>
<td>Forwarded and recommended</td>
<td>अग्रेषित और संतुल/सिफारिश की जाती है</td>
</tr>
<tr>
<td>10</td>
<td>For Sympathetic consideration</td>
<td>सहानुभूतिपूर्वक विचार के लिए</td>
</tr>
<tr>
<td>11</td>
<td>early orders are solicited</td>
<td>शीघ्र आदेश अपेक्षित है</td>
</tr>
<tr>
<td>12</td>
<td>Minister has seen</td>
<td>मंत्री जी ने देख लिया है</td>
</tr>
<tr>
<td>13</td>
<td>Need no comment</td>
<td>टिप्पणी की आवश्यकता नहीं है</td>
</tr>
<tr>
<td>14</td>
<td>As early as possible</td>
<td>यथाशीर्ष्ठ</td>
</tr>
<tr>
<td>15</td>
<td>Order has been communicated</td>
<td>आदेश भेज दिया गया है</td>
</tr>
<tr>
<td>16</td>
<td>Saving Bank pass book</td>
<td>बचत बैंक खाता पास बुक</td>
</tr>
<tr>
<td>17</td>
<td>Allowed</td>
<td>अनुमति दी</td>
</tr>
<tr>
<td>18</td>
<td>Submitted for information</td>
<td>सूचना के लिए प्रस्तुत</td>
</tr>
<tr>
<td>19</td>
<td>Submitted for orders</td>
<td>आदेश के लिए प्रस्तुत</td>
</tr>
<tr>
<td>20</td>
<td>As amended/ as revised</td>
<td>यथा संशोधित/यथा पुनरीक्षित</td>
</tr>
<tr>
<td>21</td>
<td>Approved as proposed</td>
<td>यथा प्रस्ताव/प्रस्ताव के लिए अनुमोदित</td>
</tr>
<tr>
<td>22</td>
<td>Await further action</td>
<td>आंगं की कार्रवाई की प्रतीक्षा करें</td>
</tr>
<tr>
<td>23</td>
<td>Discrepancy may be reconciled</td>
<td>विस्मरण का समाधान कर लिया जाए</td>
</tr>
<tr>
<td>24</td>
<td>Do the needful</td>
<td>आवश्यक कार्रवाई करें</td>
</tr>
<tr>
<td>25</td>
<td>Await further action</td>
<td>अगली रिपोर्ट की प्रतीक्षा करें</td>
</tr>
<tr>
<td>26</td>
<td>Further orders will follows</td>
<td>आंगं और आदेश भेज जाएगें</td>
</tr>
<tr>
<td>27</td>
<td>I agree</td>
<td>मैं सहमत हूं</td>
</tr>
<tr>
<td>28</td>
<td>Issue today</td>
<td>आज ही भेजिए/भेज दिया जाए</td>
</tr>
<tr>
<td>29</td>
<td>Issue as amended</td>
<td>यथा संशोधित रूप में भेज दीजिए</td>
</tr>
<tr>
<td>30</td>
<td>Issue reminder urgently</td>
<td>तुरंत अनुसारेक/स्मरण-पत्र भेजिए</td>
</tr>
<tr>
<td>31</td>
<td>It is an offence</td>
<td>यह कानूनी अपराध है</td>
</tr>
<tr>
<td>32</td>
<td>Keep with the file</td>
<td>इसे मिस्रित/फाइल के साथ रखिए</td>
</tr>
<tr>
<td>33</td>
<td>Matter is under consideration</td>
<td>मामला(विषय) विचाराधीन है</td>
</tr>
<tr>
<td>34</td>
<td>Obtain formal sanction</td>
<td>ओपर्चारिक संरक्षकता/मंजूरी प्राप्त करें</td>
</tr>
<tr>
<td>35</td>
<td>Office to note and comply</td>
<td>कार्यालय ध्यान दें और पालन करें</td>
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<tr>
<td>36</td>
<td>All concerned to note</td>
<td>सभी संबंधित नोट करें/ध्यान दें</td>
</tr>
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<td>37</td>
<td>Order may be issued</td>
<td>आदेश जारी कर दिया जाए</td>
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<tr>
<td>38</td>
<td>Please discuss</td>
<td>चर्चा कीजिए</td>
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<tr>
<td></td>
<td>Please speak</td>
<td>बात कीजिए</td>
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<tr>
<td>---</td>
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<td>39.</td>
<td>Please report</td>
<td>विवरण दीजिए</td>
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<td>40.</td>
<td>Please keep pending</td>
<td>कृपया इसे रोका जाए</td>
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<td>41.</td>
<td>Please circulate and file</td>
<td>सभी को दिखाकर फाइल कर दीजिए</td>
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<td>42.</td>
<td>Please inform immediately</td>
<td>तत्काल सूचित कर दीजिए</td>
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<td>43.</td>
<td>Please expedite compliance</td>
<td>शीघ्र अनुपालन कीजिए</td>
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<td>44.</td>
<td>Paper under consideration</td>
<td>विचारधीन कागज/स्मरण पत्र भेज दें</td>
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<td>45.</td>
<td>Passed for payment</td>
<td>भुगतान के लिए पास किया गया</td>
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<td>46.</td>
<td>Reminder may be sent</td>
<td>अनुस्मारक/स्मरण-पत्र भेज दें</td>
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<tr>
<td>47.</td>
<td>Sanctioned as proposed</td>
<td>प्रस्ताव के अनुसार मंजूर/यथा प्रस्ताव संस्थीकृत</td>
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<td>48.</td>
<td>Seen, issue</td>
<td>देख लिया, जारी कर दिया जाए</td>
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<tr>
<td>49.</td>
<td>Seen and returned</td>
<td>देख कर वापस किया जाता है</td>
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</table>
SEMESTER–VI

FUNCTIONAL HINDI (VOCATIONAL)

Q. घुएँ फूँह

1. यह प्रश्न पत्र तीन भागों में बंटा हुआ है। यह पहले भाग में से दस प्रश्न पूछे जाएंगे। यह प्रश्न के सभी प्रश्न अभ्यास हैं। प्रत्येक प्रश्न 1 अंक का है। कुल अंक 10 हैं।
2. इस भाग में से 10 प्रश्न पूछे जाएंगे जिन में से 5 प्रश्नों का उत्तर देना है। इन प्रश्नों का उत्तर दो पृष्ठों पूर्ण संख्या का होगा। प्रत्येक प्रश्न के 6 अंक हैं। कुल अंक 30 हैं।
3. इस भाग में चार प्रश्न पूछे जाएंगे जिन में से 2 प्रश्नों का उत्तर देना होगा। इन प्रश्नों का उत्तर 3-4 पृष्ठों उत्तर सीमित होगा। प्रत्येक प्रश्न के 10 अंक हैं। कुल अंक 20 हैं।

क) रेडियो : परिचय और इतिहास
- परिचय और इतिहास
- रेडियो के शैक्षणिक कार्यक्रम
- रेडियो के विभिन्न कार्यक्रम
- रेडियो का हिंदी भाषा को सम्प्रदाय भाषा बनाने में योगदान
- रेडियो : प्रसारण विधि और सिद्धांत

ख) दूरदर्शन : परिचय और इतिहास
- परिचय और इतिहास
- दूरदर्शन : भारत में जालस्थल
- दूरदर्शन के शैक्षणिक कार्यक्रम
- दूरदर्शन : प्रसारण विधि और सिद्धांत
- रेडियो और दूरदर्शन : तुलनात्मक अध्ययन

ग) शिक्षा और सम्प्रदाय : अर्थ, परिभाषा और स्वरूप
- आत्मकथा, जीवनी, यात्रा कृति, रेडियो और संस्कृति : अर्थ, परिभाषा और स्वरूप

| प्रश्न को उत्तर देने के लिए 10 अंक मिलेंगे। |
| प्रश्न को उत्तर देने के लिए 6 अंक मिलेंगे। |
| प्रश्न को उत्तर देने के लिए 2 अंक मिलेंगे। |

- प्रथम भाग में भाग ‘ग’ में से प्रश्न पूछे जाएंगे। 1×10=10
- द्वितीय भाग में भाग ‘क’ और ‘ख’ में से प्रश्न पूछे जाएंगे। 5×6=30
- तृतीय खंड में भाग ‘घ’ में से प्रश्न पूछे जाएंगे। 2×10=20
विद्यार्थियों को प्रति समस्त अंक की प्रयोग पुर्तित तैयार करनी होगी। जिसमें 20 अंक मौखिक परीक्षा के और 20 अंक प्रयोग-पुर्तित के होंगे।

प्रयोग पुर्तित का आकलन और मौखिक-परीक्षा गुण नानक देव विश्वविद्यालय द्वारा निर्धारित परीक्षा-नियमों के अनुसार की जाएगी।

- कैमरे का सामना करना
- प्रसारण-प्रशिक्षण
- प्रसारण समय ध्यान देने योग्य बातें
- ध्वनि-प्रशिक्षण
- आलेख तैयार करना
- हिंदी टंकण की विधि
- अंग्रेजी कुंजीपत्तल पर हिंदी टंकण
- टंकण करते समय ध्यान देने योग्य बातें
समय: 3 घण्टे  
पूर्णक 60

c) यह प्रश्न पत्र तीन भागों में बंटा हुआ है। पहले भाग में से दस प्रश्न पूछे जाएंगे। इस भाग के सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न 1 अंक का है। कुल अंक 10 हैं।

x) इस भाग में से 10 प्रश्न पूछे जाएंगे। जिनमें से 5 प्रश्नों का उत्तर देना है। इन प्रश्नों का उत्तर दो पुष्टियों की सीमा का होगा। प्रत्येक प्रश्न 6 अंक का है। कुल अंक 30 हैं।

g) इस भाग में से चार प्रश्न पूछे जाएंगे। जिनमें से 2 प्रश्नों का उत्तर देना होगा। इन प्रश्नों का उत्तर 3-4 पुष्टियों तक सीमित होगा। प्रत्येक प्रश्न के 10 अंक हैं। कुल अंक 20 हैं।

निर्धारित पाठ्यक्रम -

c) कम्प्यूटर और इंटरनेट
- कम्प्यूटर शब्दावली (अंग्रेजी से हिंदी में)
  पहले 30 में से
  - कम्प्यूटर शब्दावली (हिंदी से अंग्रेजी में)
  पहले 30 में से
  - काफी साध्य संलग्न है।

x) कम्प्यूटर: अर्थ, परिभाषा, गुण व प्रकार
  कम्प्यूटर की उपयोगिता तथा रूप-रेखा
  इंटरनेट: परिचय/इतिहास
  इंटरनेट: सम्पर्क सूत्रों का परिचय
  इंटरनेट: ई-मेल, ई-मेल भेजने की प्रविधि
  वाइसर - इंटरनेट एक्सप्लोरर: अभिग्राम
ग) पत्रकारिता और प्रेस कानून

मानहानि (Defamation)

न्यायालय की अवमानना (Concept of Court)

भारतीय सरकारी रहस्य अधिनियम, 1923

औपचारिक और चमत्कारिक उपचार कानून

एकांतता का कानून (The copy right act 1957)

प्रेस एवं पुस्तक पंजीकरण नियम, 1867

प्रेस एवं संसदीय विशेषाधिकार

श्रमजीवी पत्रकार कानून, 1955

अंक विभाजन

- प्रथम खण्ड ‘क’ में से 10 प्रश्न पूछे जाएंगे । 1×1=10

- द्वितीय खण्ड ‘ख’ तथा ‘ग’ में से प्रश्न पूछे जाएंगे । 5×6=30

- तृतीय खण्ड ‘ग’ तथा ‘घ’ में से प्रश्न पूछे जाएंगे । 2×10=20
HINDI PATRANKARITA (VOCATIONAL)
हिन्दी पत्रकारिता

प्रयोग और मौखिक

Marks: 40

- विद्यार्थियों को प्रति समस्त 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 गुरू नानक देव विश्वविद्यालय द्वारा निर्धारित परीक्षा

- नियमों के अनुसार की जाएगी ।

विषय:

• कंप्यूटर की आलोचना इकाई का ज्ञान ।
• कंप्यूटर की बाह्य इकाई का ज्ञान ।
• हिन्दी के प्रमुख साफ्टवेयर की जानकारी ।
• कंप्यूटर की केंद्रीय संसाधन इकाई की जानकारी ।
• इंटरनेट अक्सलोर के प्रयोग की विधि (Processor / C.P.U.)

कंप्यूटर शब्दावली

हिन्दी से अंग्रेजी अंग्रेजी से हिन्दी

अंकाक्षर | Character | Abstracting Periodicals | सारीकरण पत्रिका
अंकाक्षर कुँजियाँ | Character Keys | Access Path | अभिगम पथ
अक्षर | Alphabet | Accession | अवास्ति
अतिव्यूह श्रेणी एकीकरण | Very Large Scale Integartion | Accession Number | अवास्ति संख्या
अनुकूलन | Compatibility | Accession Register | अवास्ति पत्रिका
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SEMESTER–VI

PHYSICAL EDUCATION
(THEORY)

Time: 3 Hours

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

Note:- Question paper will be divided into three sections.

Section-A: The candidates are required to attempt all the six questions. Each question carrying two marks.  
6x2=12 Marks

Section-B: The candidates are required to attempt seven out of twelve questions. Each question carrying four marks.  
7x4=28 Marks

Section-C: The candidates are required to attempt two out of four questions. Each question carrying ten marks.  
10x2=20 Marks

Part-A

1. Effect of exercises on muscular, respiratory and circulatory systems.
2. General concept of Vital capacity, Blood pressure, General and Specific conditioning.
   (a) Knock Out  
   (b) League  
   (c) Combination Tournament  
   (d) Challenge Tournament
4. Organisation of Camps, Play days (Sports Meet)

Part-B

1. Meaning and Importance of Kinesiology.
2. Joints, Muscles, heir types and Movements.
3. Therapeutic Exercises, their classification and benefits.
4. Components of Physical Fitness, Speed, Strength, Endurance, Agility and Flexibility.
5. Training Methods; Circuit, Interval, Fartlek, Weight-Training and Cross Country.
6. Methods of Improving Strength, Speed, Endurance, Flexibility and Agility.
Books Recommended:

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 -------- 1500M, Javelin Throw for Boy
  800M, Javelin Throw for Girls

- Games (Boys & Girls) -------- Fundamentals, Rules, Performance
  Kabbadi
  Badminton