SYLLABUS

FOR

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

Examinations: 2019–20

GURU NANAK DEV UNIVERSITY
AMRITSAR

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## INDEX OF SEMESTER–V

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Subject</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>FACULTY OF ARTS &amp; SOCIAL SCIENCES</strong></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Political Science</td>
<td>4-5</td>
</tr>
<tr>
<td>2.</td>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>3.</td>
<td>Journalism and Mass Communication (Vocational)</td>
<td>7</td>
</tr>
<tr>
<td>4.</td>
<td>Mass Communication and Video Production (Vocational)</td>
<td>8</td>
</tr>
<tr>
<td>5.</td>
<td>Sociology</td>
<td>9</td>
</tr>
<tr>
<td>6.</td>
<td>Women Empowerment</td>
<td>10</td>
</tr>
<tr>
<td>7.</td>
<td>Psychology</td>
<td>11-13</td>
</tr>
<tr>
<td>8.</td>
<td>Defence and Strategic Studies</td>
<td>14-16</td>
</tr>
<tr>
<td>9.</td>
<td>Geography</td>
<td>17-19</td>
</tr>
<tr>
<td>10.</td>
<td>Public Administration</td>
<td>20-21</td>
</tr>
<tr>
<td></td>
<td><strong>FACULTY OF ECONOMICS &amp; BUSINESS</strong></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Economics</td>
<td>22</td>
</tr>
<tr>
<td>12.</td>
<td>Industrial Economics</td>
<td>23-24</td>
</tr>
<tr>
<td>13.</td>
<td>Quantitative Techniques</td>
<td>25</td>
</tr>
<tr>
<td>14.</td>
<td>Agricultural Economics and Marketing</td>
<td>26</td>
</tr>
<tr>
<td>15.</td>
<td>Rural Development</td>
<td>27</td>
</tr>
<tr>
<td>16.</td>
<td>Office Management and Secretarial Practice (Vocational)</td>
<td>28</td>
</tr>
<tr>
<td>17.</td>
<td>Travel and Tourism</td>
<td>29</td>
</tr>
<tr>
<td>18.</td>
<td>Tourism and Hotel Management (Vocational)</td>
<td>31-33</td>
</tr>
<tr>
<td>19.</td>
<td>Tax Procedure and Practice (Vocational)</td>
<td>34</td>
</tr>
<tr>
<td>20.</td>
<td>Advertising Sales Promotion and Sales Management (Vocational)</td>
<td>35-36</td>
</tr>
<tr>
<td>21.</td>
<td>Commerce</td>
<td>37-43</td>
</tr>
<tr>
<td>22.</td>
<td>Tourism and Travel Management (Vocational)</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td><strong>FACULTY OF SCIENCES</strong></td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>Mathematics</td>
<td>45-46</td>
</tr>
<tr>
<td>24.</td>
<td>Statistics</td>
<td>47-49</td>
</tr>
<tr>
<td>25.</td>
<td>Chemistry</td>
<td>50-56</td>
</tr>
<tr>
<td>26.</td>
<td>Physics</td>
<td>57-59</td>
</tr>
<tr>
<td></td>
<td>Course</td>
<td>Credits</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>27.</td>
<td>Home Science</td>
<td>60-62</td>
</tr>
<tr>
<td>28.</td>
<td>Cosmetology (Vocational)</td>
<td>63-64</td>
</tr>
<tr>
<td>29.</td>
<td>Clinical Nutrition and Dietetics (Vocational)</td>
<td>65-68</td>
</tr>
<tr>
<td>30.</td>
<td>Fashion Designing and Garments Construction (Vocational)</td>
<td>69-70</td>
</tr>
<tr>
<td>31.</td>
<td>Early Childhood Care and Education (Vocational)</td>
<td>71-72</td>
</tr>
<tr>
<td>32.</td>
<td>Food Science and Quality Control (Vocational)</td>
<td>73-74</td>
</tr>
<tr>
<td>33.</td>
<td>Fine Arts</td>
<td>75-77</td>
</tr>
<tr>
<td>34.</td>
<td>History of Art</td>
<td>78-79</td>
</tr>
<tr>
<td>35.</td>
<td>Gemology and Jewellery Design (Vocational)</td>
<td>80-81</td>
</tr>
<tr>
<td>36.</td>
<td>Still Photography and Audio Production (Vocational)</td>
<td>82-83</td>
</tr>
<tr>
<td>37.</td>
<td>Applied Art</td>
<td>84-85</td>
</tr>
<tr>
<td>38.</td>
<td>Sculpture</td>
<td>86-87</td>
</tr>
<tr>
<td>39.</td>
<td>Music (Vocal)</td>
<td>88-89</td>
</tr>
<tr>
<td>40.</td>
<td>Music (Instrumental)</td>
<td>90-91</td>
</tr>
<tr>
<td>41.</td>
<td>Indian Classical Dance</td>
<td>92-93</td>
</tr>
<tr>
<td>42.</td>
<td>Tabla</td>
<td>94-95</td>
</tr>
<tr>
<td>43.</td>
<td>Computer Science</td>
<td>96-97</td>
</tr>
<tr>
<td>44.</td>
<td>Information Technology (Vocational)</td>
<td>98-99</td>
</tr>
<tr>
<td>45.</td>
<td>Computer Maintenance (Vocational)</td>
<td>100-101</td>
</tr>
<tr>
<td>46.</td>
<td>Computer Applications (Vocational)</td>
<td>102-103</td>
</tr>
<tr>
<td>47.</td>
<td>Information Technology Specialization Software Development (Vocational)</td>
<td>104-105</td>
</tr>
<tr>
<td>48.</td>
<td>Automobile Maintenance (Vocational)</td>
<td>106-107</td>
</tr>
<tr>
<td>49.</td>
<td>Refrigeration &amp; Air Conditioning (Vocational)</td>
<td>108-110</td>
</tr>
<tr>
<td>50.</td>
<td>Religious Studies (यहम आधिकारिक)</td>
<td>111-112</td>
</tr>
<tr>
<td>51.</td>
<td>Philosophy</td>
<td>113-114</td>
</tr>
<tr>
<td>FACULTY OF LIFE SCIENCES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>52. Zoology</td>
<td>115-120</td>
<td></td>
</tr>
<tr>
<td>53. Botany</td>
<td>121-124</td>
<td></td>
</tr>
<tr>
<td>54. Microbiology</td>
<td>125-127</td>
<td></td>
</tr>
<tr>
<td>55. Industrial Microbiology (Vocational)</td>
<td>128-129</td>
<td></td>
</tr>
<tr>
<td>56. Microbial &amp; Food Technology</td>
<td>130-132</td>
<td></td>
</tr>
<tr>
<td>57. Bioinformatics (Vocational)</td>
<td>133-135</td>
<td></td>
</tr>
<tr>
<td>58. Biotechnology (Vocational)</td>
<td>136-138</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FACULTY OF EDUCATION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>59. Education</td>
<td>139-140</td>
</tr>
<tr>
<td>60. Human Rights</td>
<td>141</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FACULTY OF AGRICULTURE &amp; FORESTRY</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>61. Dairy Farming (Vocational)</td>
<td>142-143</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FACULTY OF LANGUAGES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>62. Russian</td>
<td>144-145</td>
</tr>
<tr>
<td>63. French</td>
<td>146-148</td>
</tr>
<tr>
<td>64. Urdu</td>
<td>149-150</td>
</tr>
<tr>
<td>65. Persian</td>
<td>151-152</td>
</tr>
<tr>
<td>66. Sanskrit (Elective)</td>
<td>153-155</td>
</tr>
<tr>
<td>67. Functional Sanskrit (Vocational)</td>
<td>156</td>
</tr>
<tr>
<td>68. English (Compulsory)</td>
<td>157-158</td>
</tr>
<tr>
<td>69. English (Elective)</td>
<td>159-160</td>
</tr>
<tr>
<td>70. Functional English (Vocational)</td>
<td>161-163</td>
</tr>
<tr>
<td>71. Punjabi (Compulsory)</td>
<td>164</td>
</tr>
<tr>
<td>72. Punjabi (Elective)</td>
<td>165</td>
</tr>
<tr>
<td>73. Functional Punjabi (Vocational)</td>
<td>166-167</td>
</tr>
<tr>
<td>74. हिंदी (in lieu of Punjabi Compulsory)</td>
<td>168-169</td>
</tr>
<tr>
<td>75. Hindi (Elective)</td>
<td>170-171</td>
</tr>
<tr>
<td>76. Functional Hindi (Vocational)</td>
<td>172-173</td>
</tr>
<tr>
<td>77. Hindi Patrakarita (Vocational)</td>
<td>174-175</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FACULTY OF PHYSICAL EDUCATION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>78. Physical Education</td>
<td>176-177</td>
</tr>
</tbody>
</table>
SEMESTER–V

POLITICAL SCIENCE

COMPARATIVE POLITICAL SYSTEMS (UK & USA)

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.

Theoretical Framework

1. Meaning and Scope of Comparative Government and Politics.
2. Comparative Method.

Unit–I

1. Features of British Political System.
2. Features of US Political System.
3. Executive in US: President, Powers, Position and Role,
4. Executive in UK: Monarchy, PM, Powers, Positions and Role.

Unit–II

2. Political Parties and Pressure Groups in US and UK.

Unit–III

1. Judicial System in USA and UK: Judicial Review in USA and Rule of Law in UK.
2. Unitary v/s Federal System, USA and UK.

Books Recommended:

SEMESTER–V

HISTORY

History of the World (C 1500-1956 AD)

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 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

1. Emergence of the Modern World: Renaissance and reformation; Causes, effects of Renaissance in Europe; Martin Luther’s Protestantism;
2. French Revolution: Causes; National Assembly; National Convention, Napoleon’s rise to Power, Civil Works and Codes, Continental System, Downfall of Napoleon, Vienna Settlement.

UNIT–II

3. Rise of Imperialism and Nationalism in Europe: Industrial Revolution; Unification of Italy, Unification of Germany.

UNIT–III


UNIT–IV

7. Rise of USA as World Power: Entry in the First World War; 14 points of President Wilson; New Deal of Roosevelt; 2nd World War and the USA.
8. Towards World War II and its Aftermath: Fascism in Italy; Nazism in Germany; Causes and Impact of the World War II; the UNO; the Cold War.

Suggested Reading

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

SEMESTER–V

JOURNALISM AND MASS COMMUNICATION (VOCAATIONAL)

ADVERTISING  
(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

Definition, need, concept and role; Difference in Publicity, Advertising, Propaganda, Types of advertising, Ad agencies–Organisational setup and functions, Copy Writing, Parts of an advertisement, Attributes of an effective copy, types, design and layout. Advertising and its impact. Modes of advertising, Appeals. Advertising Code, Advertising in Various media. Online advertising

(PRACTICAL) (20 Marks)

Making 10 advertising portfolios
SEMESTER–V

MASS COMMUNICATION & VIDEO PRODUCTION (VOCAATIONAL)

VIDEO FOR COMMUNICATION

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.

Video camera
- Basic Design (Lens, Zoom, Aperture, Focal Length, Shutter)
- Camera Angles, Movements, Shots & Mountings
- Types of Cameras (VHS), Umatic, Betacam, High Eight, Video Eight)
Camera Crew (Director, Producer, Production Manager, Floor Manager, Art Director, Makeup Man, Dress Designer, Choreographer
Lighting (Types, Luminants, accessories, lamps, & lighting problems)
Programme Proposal
Budgeting
Location Survey
Shooting Script
Pre & Post Production Meeting
Single Camera & Multicamera Shooting
Indoor & Outdoor Shooting

PRACTICAL

Practical Marks: 20

- Camera Handling
- Script Writing
- Making program proposal for any channel
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20)
(Faculty of Arts & Social Sciences)

SEMESTER–V
SOCIOLOGY

SOCIAL THOUGHT

Time: 3 Hours
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
a) Auguste Comte: Law of three stages, Positivism
b) Herbert Spencer: Social Darwinism and types of Society.

UNIT–II
a) Karl Marx: Dialectical Materialism, Historical Materialism, class and class struggle, Alienation.

UNIT–III

UNIT–IV

Books Recommended:-

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

SEMESTER–V

WOMEN EMPOWERMENT

WOMEN EMPOWERMENT AND LAWS

Time- 3Hrs.  
Max. Marks-100

Instructions for the Paper Settlers:

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
Women and Social issues: relevant provisions:
   1. Protection of Women from Domestic Violence Act, 2005
   2. The sexual harassment of women at workplace Prevention, Prohibition and Redressal Act 2013

UNIT- II
Women and Labour Laws: Relevant Provisions:
   1. Employees State Insurance Act 1948
   2. Maternity Benefit Act 1961

UNIT-III
Women and Maintenance Laws
   1. Married Women and Property Act 1874
   2. Married Women Property (Extension Act) 1959
   3. Istri Dhan and Alimony.

UNIT-IV
Women and Laws: Education and Politics
SEMESTER–V
PSYCHOLOGY

ABNORMAL PSYCHOLOGY–I
(THEORY)

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

Abnormality: Concept and Criteria of Abnormality. Myth and Misconceptions regarding Abnormal Behaviour. DSM IV classification of Abnormal Behaviour- Advantages and disadvantages

Theoretical Perspectives of Psychopathology: Psychoanalytic, Cognitive Behavioural, Humanistic and Interpersonal (Sullivan).


Stress & Coping: Categories of Stressors, Factors Predisposing an individual to stress. Coping strategies.
Stress Related Disorders: Coronary Heart Disease (CHD), Hypertension Ulcers & Migraine Pain: Symptoms Causes and general treatment of stress related disorders.

Alcoholism: Misconception about Alcohol & Alcoholism, Clinical Picture, Causes, Treatment & Outcomes.


Readings:

4. Singh, A. Asadharan Manovigyan, Punjabi University, Patiala.
SEMESTER–V

PSYCHOLOGY

(PRACTICAL)

Marks: 25

Instructions for the Practical Examination:

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

Five Practicals have to be performed out of the following:

1. Word Association Test.
2. Adjustment Inventory.
3. Raven’s Progressive Matrices/Cattell’s Culture Fair Intelligence Test.
5. Measurement of Interests.
6. Locus of Control.
SEMESTER–V
DEFENCE AND STRATEGIC STUDIES

NATIONAL SECURITY OF INDIA
(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.

UNIT–I

ii) Elements of National Security:
   a) Geography
   b) Mineral resources
   c) Social, Political and Economic factors
   d) Scientific and Technological Development
   e) Military preparedness

iii) India's Security Problems since Independence
   a) Geo-political effects of partition
   b) Security problems related to Pakistan
   c) Security problems related to China

UNIT–II

i) Indian Ocean and India's Security:
   a) Geo-strategic importance of the Indian Ocean
   b) India's Economic, Political and Security stakes in the Indian Ocean
   c) Role of Indian Navy & Coast Guards

ii) Nuclear Policy of India.
UNIT III

(i) Internal Dimension of India's Security:
   a) Militancy in Jammu & Kashmir
   b) Insurgency in North eastern states
   c) Naxalism in India

(ii) Disaster Management in India.

UNIT IV

Planning for Natural Defence

(i) Economic Mobilisation for national defence with reference to mobilization of Physical and Fiscal resources.
(ii) Planning and Production for national defence.
(iii) Major defence production Industries in India.

Suggested Readings:
SEМESTER–V
DEFENCE AND STRATEGIC STUDIES

(PRACTICAL)

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

Marks: 20
Written: 10
Discussion: 05
Record and Viva-Voce: 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. Relief features and their representation on the Map.
2. Types of slopes and their representation on the Map.
3. Study of field craft with reference to the following:
   (a) Ground
   (b) Cover
   (c) Camouflage
   (d) Concealment
   (e) Observation.

Group – B: Group Discussion (Topics)

   (a) India’s Nuclear Policy.
   (b) Maritime Security of India.
   (c) Sino-India Relations

Group – C

Record and Viva-Voce
WORLD REGIONAL GEOGRAPHY–I
(THEORY)

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

Objectives:
To provide an understanding of:
* The geographic dimensions of the world regions in terms of their political and administrative characteristics.
* The physical and human resource base and their interface with economic development.
* Development problems and prospects.

Note: Instructions for the Paper Setters and Candidates
1. Question will be put on region(s) as a whole and not on individual country. The question should focus on regional perspective.
2. A compulsory question containing 15 short answer type questions will be set covering the whole syllabus. The students will attempt any 10 parts in about 40-50 words each. Each part will carry 3 marks. (Total 30 marks)
3. 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 from each unit. This will be in addition to the compulsory question at note number 2. (Total 40 marks).
4. Stencil/outline maps and coloured pencils are allowed.

Course Contents:-
Study of the following regions of the world in terms of the aspects mentioned in each unit.
1. Anglo America
2. Middle East and North Africa

UNIT–I

a) Location
b) Physiographic divisions
c) Drainage & Climate
d) Soils and Natural Vegetation

UNIT–II

a) Major minerals  b) Agricultural crops & related occupations

UNIT–III

a) Industries
UNIT–IV

a) Demographic Characteristics  
b) Trade and Transport  
c) Problems and Prospects

Books Recommended:  
Essential Readings:


Further Readings:


Pedagogy

Teaching should involve maximum use of detailed maps of the countries, Students should be encouraged to use atlas in classrooms. Video shows about culture, physiography and economy of these countries may be arranged if possible.
SEMESTER–V
GEOGRAPHY

MAP PROJECTIONS
(PRACTICAL)

Time: 3 Hours

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

Objective:
- To provide an analytical understanding of constructions, properties, limitations and use of cylindrical and conical map projections.

UNIT–I
General introduction and classification of projections, constructions, properties, limitations and use of projections.
Construction, properties and limitations of following map projections:
Cylindricals: Plate Caree, Equal-Area and Mercator’s.

UNIT–II
Construction, properties and limitations of following map projections:
Conicals: One Standard Conic, Two Standard Conic, Bonne’s, Polyconic and International.

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:
Instructions for the Paper Setters
The question paper will consist of two sections as per following pattern:

**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**

Introduction:

**UNIT–II**

Urban Local Government:
Municipal Council: Organisation and Functions; President, Executive Officer.

**UNIT–III**

Rural Local Government:
UNIT–IV

State Control:

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

SEMMESTER–V

ECONOMICS

ECONOMICS OF DEVELOPMENT

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

Economic Development: Meaning and Measurement, Economic and Non-Economic Factors, Nature of Underdevelopment, Characteristics of Undeveloped Countries. Human Development Index, Concept of Sustainable Development.

Dualism: Social and Technological Dualism, Lewis Model of Unlimited Supply of Labour, Problems of Unemployment and Disguised Unemployment.

UNIT–II

Models of Growth: Classical, Marxian, Schumpeter’s, Harrod-Domar and Solow’s Growth Models.

UNIT–III


UNIT–IV

Capital Formation – Meaning and Sources. Choice of Technique, Role of Planning in Under Developed Countries, Need, Objective, Strategy, Types and Problems of Planning.

Suggested Readings:

1. Rostow W.W.: Stages of Growth
INDUSTRIAL ECONOMICS

UNIT–I

Pattern and Rationale of Industrialisation in Developing Economy Like India; Factors Promoting and Inhibiting Industrialisation.


UNIT–II

Role of Public Sector; Recent Trends in Indian Industrial Growth—Liberalization and Privatization; Small Scale Industry in India.

UNIT–III

Regional Industrial Growth in India; Industrial Concentration: Meaning, Measurement and Remedial Measures.

Issues in Industrial Proliferation and Environmental Preservation; Pollution Control Policies.

UNIT–IV

Institutional Industrial Finance: IDBI, ICICI, SFC, SIDC and Commercial Banks
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20)  
(Faculty of Economics & Business)

Recommended Readings:

8. Datta, B.: Indian Planning at the Crossroads.
SEMMESTER–V
QUANTITATIVE TECHNIQUES

QUANTITATIVE TECHNIQUES–V

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

Statistical Inference: Point & Interval Estimation; Properties of a Good Estimator, Maximum Likelihood Method of Estimation, its applications for Binomial, Poisson and Normal distributions. Basic Concepts of Null and Alternative Hypotheses, Types of Errors; One Tailed and Two Tailed Tests, Power of Test, Critical Region.

UNIT–II

Sampling Distributions: Derivation of properties of Z, T, Chi Square and F distributions.

UNIT–III

Tests of significance based upon distribution of Z, t, F and Chi-square.

UNIT–IV


Books Recommended:
SEMESTER–V
AGRICULTURAL ECONOMICS AND MARKETING

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

UNIT–I
Mobilisation and Determinants of Agricultural Surpluses; Terms of trade between Agriculture and Industry. Farmers terms of trade with special reference to Punjab and their implication for development.

UNIT–II

UNIT–III

UNIT–IV
Marketable and Marketed Surplus, Supply Response of Marketed surplus to prices, size distribution of marketable surplus. Backward bending supply curve. Price expectations and uncertainties, market risk, price stabilization measures.

Recommended Readings:
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
Rural industries: Meaning and Importance; Problems and Difficulties, Measures for Development; Government Policy.
Agro-Industries: Meaning and features; Importance and Present status; Problems and Remedies.

UNIT–II
The nature of agricultural and industries production system and their relationships; Public and Private delivery system and their importance.

UNIT–III
Delivery system for supplies of inputs like seeds, fertilizers, insecticides etc. Agricultural supply chains, Public Distribution System.

UNIT–IV
Rural Poverty: Problems and Magnitude; Causes and Remedies; Government Policies.
Role of irrigation and power in rural development; Forests and Forestry Development; Major Problems; Lines of Development; Government Policy.

Suggested Readings:
2. Mukerjee, K.B.: Community Development in India.
SEMESTER–V
OFFICE MANAGEMENT AND SECRETARIAL PRACTICE
(VOCA TIONAL)

OFFICE PRACTICE
(THEORY)

Time: 3 Hours

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

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

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

(6x2=12 Marks)

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

(4x12=48Marks)

UNIT–I
Office Stationery: Types of papers and envelopes, control of consumption of papers, ink typewriting ribbons, carbon papers, pins, clips, erasers etc. issue thereof, stock and stock record.

UNIT–II
Duplication Methods:
Photocopying
Meeting: Notice, agenda, physical facilities, quorum, providing secretarial assistance.

UNIT–III
Using Information:

UNIT–IV
Making Travel Arrangement: Preparing tour programme, railways and air reservation, booking hotel accommodation, filling of form for tour advance, preparing T.A. Bills.

(PRACTICAL)

1. Practice on Operating the following machines:-
   - Duplicator 6 hours
   - Photocopier 6 hours
   - Wood Processor 20 hours
   - Scanner 8 hours

2. Working in the Office:
   - Maintenance of Register
   - Preparation of notice, agenda, resolutions

3. Telephone Handling
SEMMESTER–V
TRAVEL & TOURISM

WORLD TRAVEL GEOGRAPHY

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. 
\[ (10 \times 02 = 20 \text{ Marks}) \]

**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 question. 
\[ (04 \times 20 = 80 \text{ Marks}) \]

UNIT–I

**Chapter 1. Fundamentals of Geography**
Importance of Geography in tourism,
Climatic variations, climatic regions of world

**Chapter 2. Study of Maps**
Longitude & latitude,
International Date Line,
Time variations and time difference

UNIT–II

**Chapter 3. Popular Destinations-1**
United States of America and Europe
African Wildlife

**Chapter 4. Popular Destinations-2**
Islamic Middle East
South East Asia and Australia

UNIT–III

**Chapter 5. Seven Wonder of the World**
Great Pyramid of Giza, Hanging Gardens of Babylon,
Statue of Zeus at Olympia, Temple of Artemis at Ephesus, Mausoleum of Maussollos at Halicarnassus,
Colossus of Rhodes, Lighthouse of Alexandria.

**Chapter 6. Modern Wonders**
Great Wall of China, Petra (Jordan), Christ the Redeemer (Brazil), Machu Picchu (Peru), Chichen Itza (Mexico), Roman Colosseum (Italy), Taj Mahal (India).
UNIT–IV

Chapter 7. Globalisation and Tourism
Globalisation and Tourism in India,
Incredible India campaign

Chapter 8. Heritage and Challenges to Growth of Tourism
What is Heritage and why should it be conserved
World Heritage Monuments of India
Reasons for slow growth rate of Tourism in India.

Suggested Readings:

SEMMESTER–V
TOURISM AND HOTEL MANAGEMENT
(THEORY)

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

Front Office
I. Front office as an operational department.
II. Job description of front office assistant.
III. Lobby:
   - Duties & responsibilities of lobby manager.
   - Organization of bell desk and functions.
   - Left luggage handling.
   - Guest errand cards.
   - Mail Message handling.
   - Wakeup call procedure.
IV. Check in-Check out procedure, Guest folio, safety locker management.
V. Processing housekeeping discrepancy.
UNIT–II

Housekeeping
I. Housekeeping department-recruitment & selection.
II. Floor linen room
   - Type of linen and use.
   - Par stock, safety stock, lead time quantity, Max. Qty, Min. Qty.
   - Inventory control.
   - Exchange of linen and uniforms.
III. Interior Decoration, color, furniture, fixture and lighting in hotel.
IV. Laundry Service.
V. Housekeeping Practice.
   - Lost & found procedure.
   - Pest control.
   - Turn down service.
   - Key Control.

UNIT–III

Food and Beverage Production:
I. Work Method in food preparation.
II. Different type of soups.
III. Curry powder used in Indian Cookery:
   - Gram masala, Pulao masala, Sambar masala, Rasam powder, Chaat masala, Meat masala.
IV. Vegetables and salads.
V. Meat (lamb, beef, pork) Poultry.
VI. Basic Indian Gravies:
   - Yellow gravy.
   - White gravy.
   - Butter gravy.
   - Onion tomato masala.

UNIT–IV

Food and Beverage Service:
I. Organization structure of F & B Service Deptt.
II. Preparation for Service:
   - Mise-en-essance
   - Mise-en-place
   - Side board
III. Type of Services:
   - English service.
   - French service.
   - Russian service.
   - American service.
   - Room service.
   - Geuridon service.

IV. Briefing and check point for supervisor.
V. Beverages (alcoholic, Non-alcoholic)
   - Procedure for serving table wine.

VI. Cheese

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 month. 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.

Suggested Readings:

In the image, you can see a page from a document that includes the following sections:

### Instructions for the Paper Setters:

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

**Section–A:** This section will consist of 8 very short answer questions with answer to each question up to 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 up to two pages. Nine questions will be set by the examiners and the candidates will be expected to attempt 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 up to 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.

### Part–I

**GST Act 2017:** Overview, Constitutional aspects, Implementation, Liability of Tax Payer, GST Council, Brief Introduction to IGST, CGST, SGST and UGST. Levy and collection.

**Exemption from GST:** Introduction, Composition Scheme and remission of Tax.

### Part–II

**Supply:** Concept, including composite supply, mixed supply, interstate supply, intra-state supply, supply in territorial waters, place and time of supply.

**Input Tax Credit:** Introduction, Tax Invoice Credit & Debit notes, e-way bill.

Computation of GST Liability and Payment including time, method of making payment, challan generation, CPIN, TDS & TCS. Reverse charge.

### Returns:

Various returns to be filed by the assesses.

**GST Portal:** Introduction, GST Eco-system, GST Suvidha Provider (GSP), Uploading Invoices

### Suggested Readings:

2. Datey V.S., Taxmann’s GST Ready Reckoner Taxman, Publications (P) Ltd.
4. www.cbec.gov.in
UNIT–I
Importance of the sales force and its management
Functions of Sales Manager
Recruitment and Selection

UNIT–II
Training and Direction
Motivation and Compensation
Appraisal of Performance

UNIT–III
Sales force size, organisation of the sales department: Geographic, Product Wise, Market based.
Sales Planning and Central: Market analysis and Sales for Casting. Methods of forecasting sales.
Sales Budget: Importance, Process of sales budget, uses of sales budget.
UNIT–IV

Sales territory: Considerations in allocation of sales territory.

Sales quota: Objectives, principles of selling sales quota administration of sales quota. Uses of Sales quota.

Sales and cost analysis: Uses and Methods.

Suggested Readings:


SEMESTER – V

COMMERCE

ANY ONE OF THE FOLLOWING OPTIONS:-

OPT. (I) COMPUTER AIDED ACCOUNTING
OPT. (II) MATERIALS MANAGEMENT
OPT. (III) TYPING AND SHORTHAND

OPTION (I): COMPUTER AIDED ACCOUNTING

Time: 3 Hours
Max. Marks: 100

Note:

i) The candidates are allowed to use simple (Non-Scientific) Calculators.
ii) Each question paper will consist of three sections as follows:-

Section – A: It will consist of 10 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 2 marks; total weightage of the section being 20 marks.

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

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

UNIT – I

Introduction to Computers: Early developments, Computer generations; information representation and storage; basic concepts of Boolean algebra; Binary arithmetic operations; hardware and software; Concepts of data and information; fields, records, files.

UNIT – II

Definition of data processing, types of data processing; data processing cycle; common data processing operations; data capture and validation; data validation techniques; introduction to data storage devices.
UNIT–III

Problem Solving basic Programming
Problem solving on computers: Algorithms and flowcharts; programming languages and BASIC: Introduction to BASIC language; constants, variables and expressions; Communication with the computer.

UNIT–IV

Program control, Commands; repetitive computations, arrays and subscripted variables; functions and subroutines; string data manipulation, graphics commands.

Software Lab: Accounting Problems based on the above syllabus. The students are required to develop programmes for various accounting problems.

Suggested Readings:

SEMESTER–V

COMMERCING

OPTION (II): MATERIALS MANAGEMENT

Time: 3 Hours
Teaching Hours: 80
Period of 45 minutes each

Note: i) The Candidates are allowed to use simple (Non-Scientific) Calculators.
ii) Each question paper will consist of three sections as follows:-

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

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

Section–C: It will consist of essay type questions with answer to each question upto 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

Nature and scope of materials management, objectives and functions of materials management; organization of materials management, interdepartmental relationships

Purchasing Management Introduction, Objectives and functions organisation for purchasing, responsibilities of purchase department, determination of purchase, requirements. Purchase procedures inviting tenders and quotations selecting a source, placing an order and follow up; purchasing records and their maintenance; purchasing through approved sources and through D.G.S. and T.D.

UNIT–II

Stores Management : Identification of stores, classification and codification of materials on alphabetical, nemonic, numerical, alpha-numerical and column making systems, advantage of classification and codification; stores organisation; receiving section layout and location system, substores, material handling and storage equipment, store accounting.
UNIT–III

Inventory Management: Definition scope and objectives of inventory control, ABC analysis, factors requirement of an item, lead time, carrying or holding costs, set up or ordering costs, shortage or stock out costs re-order point, safety stock, economic order quantity (without shortages), EOQ for price discounts.

UNIT–IV

Distribution Management: Definition of physical distribution, factors affecting distribution, elements of transport system, pros and cons of various modes of transportation, transportation and non transportation costs. Inter-state tariffs documentation, carrier and consigners liabilities, packing and package costs, packaging fragile, perishable and dangerous goods.

Recommended/Suggested Books:
Note: 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 upto 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 questions with answer to each question upto two pages in length. Twelve questions will be set by the examiner and eight will be attempted by the candidates. Each question will carry 4 marks. The total weightage of the section being **32 marks**

**Section–C:** It will consist of essay type questions with answer to each question upto 5 pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two. Each question will be carry 11½ marks; total weightage of the section being **23 marks**

**UNIT–I**

2. Manipulation of fingers on key board– Introduction of basic lesson (all the four rows) including operation of side shift keys.

**UNIT–II**

3. Speed development importance of accuracy over speed.
4. Care and upkeep of typewriter. Typewriting accessories, change of ribbon, use of punctuation signs and space to be left after punctuation marks carbon manifolding.

**UNIT–III**

5. Instructions for stencil cutting. Use of correcting fluid.
6. Display of tabulation work and balance sheets.
UNIT–IV

7. How to type printed forms, telegrams, minutes notices and legal matters. Development of speed @ 25 w.p.m. with daily practice.

8. Revision of theory.

Note: There would be one paragraph of 125 words to be typed @ 25 w.p.m. for 5 minutes carrying 10 marks and their would be 5 marks for sessional work. (The candidate is required to maintain his file throughout the year.)

Books Recommended: (Typewriting Theory)
1. Typewriting made easy.
2. General instructions regarding typewriting and stencil cutting.
3. A handbook of typing.

Typewriting Practical:
1. Speed and accuracy.
2. Comprehensive course in touch typewriting.
3. Weekly test papers.
4. Any other book suitable to students.

<table>
<thead>
<tr>
<th>THEORY</th>
<th>PRACTICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nature, scope, importance of shorthand (this includes basic instructions and introduction).</td>
<td>Teacher would be required to teach students basic principles of shorthand and practice of constant and vowels (initial lessons.)</td>
</tr>
<tr>
<td>2. Explanation of consonant and vowel sounds, their indication and their use in shorthand.</td>
<td>Practice from books and reading back at initial Speed it will be required for the whole of the year.</td>
</tr>
<tr>
<td>3. Gramalogues–explanation and their usage in shorthand.</td>
<td>Dictation and reading back from further exercises, transcription from written shorthand would start from this stage.</td>
</tr>
<tr>
<td>4. Explanation of diphthongs hooks (initial and final) halving and doubling principles.</td>
<td>Practice from book exercise, reading back and transcription. 5 minutes para dictation and transcription at nominal speed till last examination.</td>
</tr>
<tr>
<td>5. Diphones, medial semicircles and compound words-general contractions.</td>
<td></td>
</tr>
</tbody>
</table>
6. Intersections, advanced phraseography and special constructions including legal phraseography. Dictation from seen and unseen passage (from shorthand book) reading back and transcriptions at normal speed.


– Introduction of new and advance shorthand outlines. The candidate would be required to attain speed @ 60 w.p.m. and transcribe the same @ 12 w.p.m.

8. Dictation from instructor exercises and preparation for examination.

**Note:** There would be one paragraph of 5 minutes of 300 words to be dictated @ 60 w.p.m. and to be typed @ 12 w.p.m. carrying 15 marks.

‘Shorthand Instructor’ is required to give practical knowledge of all the exercises of the book to the learners. Questions for theory would be from the prescribed syllabus but practical (shorthand test) would be from the whole of the book.
SEMESTER–V
TOURISM AND TRAVEL MANAGEMENT (VOCATIONAL)
EMERGING CONCEPTS FOR EFFECTIVE TOURISM DEVELOPMENT

Time: 3 Hours  Max. Marks: 100

Internal assessment will be based on Periodical test, Presentations, Assignments, Group discussions, and Grooming skills

Instructions for the Paper Setters:

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

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

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

Part–I
Relevant concepts and approaches for effective tourism development.
- New Policies on Tourism and Civil Aviation.
- Tourism traffic and its Improvisations
- Destination development.
- Sustainable development.

Part–II
- Management Strategies.
- Tourism Policy Analysis.
- Tourism Legislation a Necessity.

Suggested Readings:

3. Reports of World Tourism Organisation.
SEMESTER–V
MATHEMATICS

PAPER–I: DYNAMICS

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

Rectilinear motion in a starlight line with uniform acceleration, Newton's laws of motion. Motion of two particles connected by a string. Motion along a smooth inclined plane. Variable acceleration. Simple Harmonic Motion.

Section–B


Books Recommended:

2. F. Chorlton: Dynamics.
SEMESTER–V
MATHEMATICS

PAPER–II: NUMBER THEORY

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
The division algorithm, The greatest common divisor, least common multiple, The Euclidean algorithm, The Diophantine equation \( ax + by = c \) Prime numbers and their distribution, The fundamental theorem of arithmetic, Basic properties of congruences, Linear congruences, Special divisibility tests.

Section–B
Chinese remainder theorem, The Fermat's theorem, Wilson's theorem, \( \tau \) and \( \sigma \) functions, Mobius Inversion formula, Greatest integer function, Euler’s Phi function, Euler’s theorem, some properties of the Phi Function.

Books Recommended:
   (Scope in Chapters 2-5, 7-12), 2005
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20) 
(Faculty of Sciences)

SEMESTER–V

STATISTICS

PAPER–I: LINEAR MODELS AND DESIGN OF EXPERIMENTS

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
Linear models, the fixed effect models, the distribution of minimum error sum of squares and the conditional minimum error sum of squares, tests of general linear hypotheses.
Analysis of one way classified data under the fixed effect model. Analysis of two way classified data with one observation per cell under the fixed effect models, Analysis of two way classified data with multiple but equal observation in cell under the fixed effect models, expectations of various mean sum of squares in one way and two way classified data.

Section–B
Terminologies in experimental designs, basic principles of design of experiment: randomization, replication and local control, completely randomized design, randomized block design and the latin square design, balanced incomplete block design and their advantages, disadvantages and analysis. Factorial experiments, the concept of main effects and interactions in $2^2$ and $2^3$ factorial experiments and the sum of squares due to them. Yates method of computing the sum of squares due to the main effects and interactions in $2^2$ and $2^3$ factorial designs, statistical analysis of these experiments (excluding confounding).

Books Recommended:
SEMESTER–V

STATISTICS

PAPER–II: THEORY OF SAMPLE SURVEYS

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
Introduction to design of sample surveys, census and sample surveys, basic principles of sample surveys, planning a sample survey, sampling and non sampling errors.

Section–B
Ratio, product and regression estimates of population mean: their approximated (under large sample) expected values and variances under SRSWOR, comparisons with mean per unit estimate (under SRSWOR)

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

SEMESTER–V

STATISTICS

PAPER-III: - Practical based on PAPER–I: LINEAR MODELS AND DESIGN OF
EXPERIMENTS

Time: 2 Hours  Marks: 30

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

List of Practicals Exercises

1. Exercises on analysis of variance for one way classified data and Completely
   Randomized design
2. Exercises on analysis of variance for two way classified data with one observation per
   cell and Randomized Complete Block design
3. Exercises on analysis of variance for two way classified data with multiple but equal
   observations per cell
4. Exercises on analysis of variance for Latin Square design
5. Exercises on analysis of variance for Balanced Incomplete Block design
6. Exercises on analysis of variance for $2^2$ and $2^3$ factorial experiments

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
CHEMISTRY (INORGANIC 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 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. Metal-ligand Bonding in Transition Metal Complexes (10 Hrs)
Limitations of valence bond theory, an elementary idea of crystal-field theory, crystal field splitting in octahedral, tetrahedral and square planar complexes, factors affecting the crystal-field parameters.

2. Magnetic Properties of Transition Metal Complexes (5 Hrs)
Types of magnetic behaviour, methods of determining magnetic susceptibility, spin-only formula. L-S coupling, correlation of μs and μeff values, orbital contribution to magnetic moments, application of magnetic moment data for characterization of 3d-metal complexes.

Section–II
3. Thermodynamic and Kinetic Aspects of Metal Complexes (5 Hrs.)
A brief outline of thermodynamic stability of metal complexes and factors affecting the stability, substitution reactions of square planar complexes.

4. Electronic Spectra of Transition Metal Complexes (10 Hrs)
Term Symbols for p^2 & d^2 systems, spectroscopic ground states for d^1-d^{10} electronic configurations. Types of electronic transitions, selection rules for d-d transitions, spectroscopic ground states, Orgel diagram for d^1-d^5.

Section–III
5. Organometallic Compounds: (15 Hrs)
Definition, nomenclature and classification of organometallic compounds. EAN rule, Preparation, properties, and applications of alkyls aryls of lithium and aluminium, Bonding in metal-ethylenic complexes, Mechanism of homogeneous hydrogenation reactions.
Books Suggested:-

11. Inorganic Chemistry, A.G. Sharpe, ELBS.
SEMESTER-V
CHEMISTRY (PHYSICAL CHEMISTRY–B)
(THEORY)

Time: 3 Hrs  
Marks: 35

45 Hrs. (3 Hrs./week)

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

Part-A :- (Compulsory)
It shall consist of 8 very short answer type questions (Q. Nos. 1 to 8) from the entire syllabus and the maximum length of each question may not exceed 1/3rd 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. Electrochemistry-I  (7 hrs.)

Electrical transport-conduction in metals and in electrolyte solutions, specific conductance and equivalent conductance, measurement of equivalent conductance, variation of equivalent and specific conductance with dilution. Migration of ions and Kohlrausch law, Arrhenius theory of electrolyte dissociation and its limitations, weak and strong electrolytes, Ostwald's dilution law, its uses and limitations. Debye-Huckel-Onsager's equation for strong electrolytes (elementary treatment only). Transport number, definition and determination by Hittorf method and moving boundary method. Applications of conductivity measurements: determination of degree of dissociation, determination of $K_a$ of acids, determination of solubility product of a sparingly soluble salt, conductometric titrations.

2. Electrochemistry – II  (8 hrs.)


Section–II

3. Nuclear Chemistry (15 Hrs.)

Section–III

4. Spectroscopy (15 Hrs.)
Introduction: Electromagnetic radiation, regions of the spectrum, basic features of different spectrometers, statement of the Born-Oppenheimer approximation, degrees of freedom.

5. Rotational Spectrum
Diatomic molecules. Energy levels of a rigid rotor (semiclassical principles), selection rules, spectral intensity, distribution using population distribution (Maxwell-Boltzmann distribution) determination of bond length, qualitative description of non-rigid rotor, isotope effect.

6. Vibrational Spectrum
Infrared spectrum: Energy levels of simple harmonic oscillator, selection rules, pure vibrational spectrum, intensity, determination of force constant and qualitative relation of force constant and bond energies, effect of anharmonic motion and isotope on the spectrum, idea of vibrational frequencies of different functional groups.
Raman Spectrum: Concept of polarizability, pure rotational and pure vibrational Raman spectra of diatomic molecules, selection rules.

7. Electronic Spectrum
Concept of potential energy curves for bonding and antibonding molecular orbitals, qualitative description of selection rules and Franck-Condon principle.
Qualitative description of s, p, and n M.O., their energy levels and the respective transitions.
Books Suggested:-

SEMESTER–V
CHEMISTRY
(PRACTICAL)

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

(I) Synthesis and Analysis
(a) Preparation of Sodium trioxalatoferrate (III)
(b) Preparation of Ni-DMG Complex
(c) Preparation of Copper tetrammine complex
(d) Preparation of cis-bisoxalatodiaquachromate (III) ion

(II) Physical Chemistry
(a) Conductometric Titrations
(i) Determine the end point of the following titrations by the conductometric methods.
Strong acid-Strong base
Strong acid-Weak base
Weak acid-Strong base
Weak acid-Weak base
(ii) Determine the composition of a mixture of acetic acid and the hydrochloric acid by conductometric titration.

(b) (i) Molecular Weight Determination of acetanilide, naphthalene, using camphor as solvent (Rast's methods).
(ii) To determine the molecular weight of a polymer by viscosity measurements.

(c) Adsorption
(i) To study the adsorption of acetic acid oxalic acid from aqueous solutions by charcoal.

(d) Phase Equilibria to determine the distribution coefficient of iodine between CCl₄ and water.
(e) Refractometry
(i) Determination of refractive index of a liquid by Abbe refractometer, and hence the specific and molar refraction.
(ii) To determine the composition of unknown mixture of two liquids by refractive index measurements.

Practical Examination
1) Inorganic Synthesis 10
2) Physical experiment 13
3) Viva- Voce 04
4) Note Book 03
Books Suggested:

SEMESTER–V
PHYSICS

PAPER–A
CONDENSED MATTER PHYSICS
(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
Crystal structure, Symmetry operations for a two and three dimensional crystal, Two dimensional
Bravais lattices, Three dimensional Bravais lattices, Basic primitive cells, Crystal planes and Miller
indices, Diamond and NaCl structure.

UNIT-II
Crystal Diffraction: Bragg’s law, Experimental methods for crystal structure studies, Laue equations,
Reciprocal lattices of SC, BCC and FCC, Bragg’s law in reciprocal lattice, Brillouin zones and its
construction in two and three dimensions, Structure factor and atomic form factor.

UNIT-III
Lattice vibrations, Concepts of phonons, Scattering of photons by phonons, Vibration and mono-
atomic, linear chains, Density of modes, Einstein and Debye models of specific heat.

UNIT-IV
Free electron model of metals, Free electron, Fermi gas and Fermi energy, Band Theory: Kronig-
Penney model, Metals and insulators, Qualitative discussion of the following: Conductivity and its
variation with temperature in semiconductors, Fermi levels in intrinsic and extrinsic semiconductors,
band gap in semiconductors.

Books Suggested:
1. Introduction to Solid State Physics: C. Kittel (Wiley Eastern)
SEMESTER–V
PHYSICS

PAPER–B: NUCLEAR 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 I

Nuclear Properties: Constituents of nucleus, non-existence of electrons in nucleus, Nuclear mass and binding energy, features of binding energy versus mass number curve, nucleus radius, angular momentum and parity, nuclear moments: magnetic dipole moment and electric quadruple moment, properties of nuclear forces, Yukawa theory.

UNIT II

Radioactive Decays: Modes of decay of radioactive nuclides and decay Laws, radioactive series and displacement law, radioactive dating, constituents of Cosmic rays, Alpha decay: Gamow's theory of alpha decay, barrier penetration as applied to alpha decay, Geiger Nuttal law, Beta decays: $\beta^-$, $\beta^+$ and electron capture decays, Neutrino hypothesis and its detection, parity violation in $\beta$ decay, Gamma transitions: Excited levels, isomeric levels, Gamma transitions, internal conversion.

UNIT III

Nuclear Reactions: Types of nuclear reactions, reactions cross section, conservation laws, Kinematics of nuclear reaction, examples of nuclear reactions, Q-value and its physical significance, compound nucleus, level width.

UNIT IV

Nuclear Models: Liquid drop model, semi-empirical mass formula, condition of stability, evidence for nuclear magic numbers, Shell Model, energy level scheme, angular momenta of nuclear ground states, parity and magnetic moment of nuclear ground states.

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. Nucler and Particles: E. Segre
SEMESTER–V
PHYSICS
(PRACTICAL)

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

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.

1. Measurement of reverse saturation current in p-n-junction diode at various temperatures and to find the approximate value of energy gap.
2. To draw forward and reverse bias characteristics of a p-n junction diode.
3. Study of a diode as a clipping element.
4. To measure the efficiency and ripple factors for (a) halfwave (b) full wave and (c) bridge rectifier circuits.
5. To draw the characteristics of a Zener diode.
6. To study characteristics of Common Base transistor.
7. To study characteristics of Common Emitter transistor.
8. To study the gain of an amplifier at different frequencies and to find Band width
9. To study the reduction in the ripple in the rectified output with RC, LC and $\pi$ filters.
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20) (Faculty of Sciences)

SEMESTER–V

HOME SCIENCE

FOODS AND NUTRITION & CHILD DEVELOPMENT - I
(THEORY)

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

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. Importance and functions of food:
   a) Physiological
   b) Psychological
   c) Social
2. Essential food Constituents: Carbohydrates, Proteins and Fats; functions, sources, requirements and Deficiency and excess.
3. Methods of cooking: Boiling, steaming, frying, baking, roasting and micro-wave cooking.

Section–B
4. Food nutrients: Functions, recommended allowances, deficiency and sources of:
   a) Vitamins– B-1, B-2, Niacin, A, C, D
   b) Minerals–Calcium, Iron, Iodine

Section–C
1. Definition and importance of Child Development.
2. a) Differences between growth and development.
   b) Principles of development.
3. Physical development of the child from infancy to late childhood and factors affecting the same.

Section–D
4. Motor Development from infancy to late childhood.
   a) Pattern of motor development.
   b) Factors affecting motor development.
5. Emotional Development  
a) Characteristics of children emotions.  
b) Common childhood emotions fear, anger, jealousy, love and affection, anxiety and curiosity.

6. Language Development  
a) Stages of language development.  
b) Factors affecting language development

References Books:

<table>
<thead>
<tr>
<th>Sr.no.</th>
<th>Book title</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Food and Nutrition</td>
<td>Sebrell, William H.</td>
</tr>
<tr>
<td>2.</td>
<td>Normal And Therapeutic Nutrition</td>
<td>Praudfit</td>
</tr>
<tr>
<td>3.</td>
<td>Child Behaviour and Development</td>
<td>Kappuswamy, B</td>
</tr>
<tr>
<td>4.</td>
<td>Child Growth and Development</td>
<td>Hurlock, Elizabeth</td>
</tr>
<tr>
<td>5.</td>
<td>Human Nutrition and Dietics</td>
<td>Davidson, Stanley</td>
</tr>
<tr>
<td>6.</td>
<td>Textbook of Home Science</td>
<td>Neelam Garewal</td>
</tr>
</tbody>
</table>
1. Preparation of minimum of three dishes by using various methods of cooking (e.g. boiling, steaming, baking), frying (deep & shallow) and roasting with different food groups e.g. cereal, pulses & vegetables groups and their combinations.

2. Food preservation-Pickle, chutneys, jams, squashes, sherbets, sauce (at least two each).
SEMESTER–V

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.

1. Bacteriology
   a) What is Bacteria?
   b) How Bacteria grows and reproduce?
   c) Types of Bacteria
   d) Infections and Disease

2. Sterilization & Sanitations
   a) Methods of Sterilization & Sanitations
   b) Commonly used disinfectants
   c) Knowledge of common antiseptics
   d) General suggestions for sanitations

3. Chemical Treatment of Hair
   a) Rebonding
   b) Smoothening
SEMESTER–V

COSMETOLOGY (VOCATIONAL)
(PRACTICAL)

Time: 3 Hrs.  Marks: 50
Periods/Week: 6

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.

1. Make-up
   a) Cosmetics used in make-up, how to choose the correct colour, selecting base shades, how to determine facial balance.
   b) Bridal Makeup - day & night
   c) Corrective make-up

2. Hair Styling: Formal and casual

3. Draping of Formals & Causals: Saree and Lehngas
SEMESTER–V

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

THERAPEUTIC NUTRITION

(THEORY)

Max. Marks: 100
Theory: 60
Practical: 40

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 in all. The students are to attempt any 5 questions (12 marks for each question).
4. Question 1 is compulsory, which contains short answer type questions.

Objectives:-
1) To gain knowledge about different diseases.
2) To learn therapeutic adaptation of the normal diet.

Content :-

Unit–I

1) Basic concept of Therapeutic diet - meaning, importance, objectives, Therapeutic adaptations of the normal diet.
2) Types of routine hospital diets - normal diet, Soft diet, liquid diet, Special feeding methods Enteral nutrition and Parenteral Nutrition.
3) Role of Dietitian in feeding of patients. Effect of illness on food acceptance and utilization.

Unit–II

4) Nutrient and drug interaction. Effect of drug therapy on intake, absorption and utilization of nutrients.

Unit–III

6) Nutrition in Gastro - intestinal disorders, etiology, symptoms and dietary management in Diarrhoea, constipation, Gastritis, Irritable bowl syndrome peptic ulcer.
7) Nutrition in disturbauces of small and large intestine etiology, symptons and dietary management in Celiac disease, Lactose intolerance, ulcerative colitis.
SEMESTER–V

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

Unit–IV


Unit–V


Unit–VI


Unit–VII

11) Nutrition in Cardiovascular diseases, etiology, symptoms, life style modification, brief knowledge of Dash Diet and dietary management in Atherosclerosis, Hypertension, Dislipidemia and Acute cardiovascular disease/Heart attack.

Unit–VIII


Unit–IX

13) Nutrition in obesity - assessment of obesity, Hazards of obesity, etiology, nutritional management and other approaches.
14) Gout - etiology, symptoms & dietary management.
15) Food Allergy - Causes, symptoms & dietary management.
CLINICAL NUTRITION AND DIETETICS ( VOCATIONAL )

Reference 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>
</tr>
<tr>
<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>
</tr>
<tr>
<td>8</td>
<td>Food Hygiene and Sanitation</td>
<td>2011</td>
<td>Sunetra Rodey</td>
<td>2nd</td>
<td>McGraw Hill Education</td>
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<td>9</td>
<td>Clinical Nutrition and Dietetics</td>
<td>2002</td>
<td>F P Antia</td>
<td>4th</td>
<td>Oxford University Press</td>
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<tr>
<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>
</tr>
<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>
</tr>
</tbody>
</table>
SEMESTER–V

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

THERAPEUTIC NUTRITION
(PRACTICAL)

Time: 3 Hrs.  Marks: 40
Periods: 6

Note:- Paper will be set on the spot by the examiner instructions for the Paper Setter.

1. Prepare following therapeutic recipes and calculate their nutritive value.
   a. Prepare 5 recipes of liquid and soft diet.
   b. Prepare 5 high protein and high energy recipes.
   c. Prepare 5 high carbohydrate, moderate protein & low fat recipes.
   d. Prepare 5 high fiber and low glycemic index recipes.
   e. Prepare 5 low sodium, low fat and high fiber diet.

2. Plan and calculate nutritive value of diet for the following diseases. Typhoid, Diarrhoea, Constipation, Jaundice, peptic ulcer, Diabetes, Hypertension, atherosclerosis, renal disease and obesity.

3. Students are required to run Diet Clinics in the college

Note: Students are required to undergo 10 days hospital training in winter break and submit report

Reference Books:

1. Food and Nutrition - by Dr. M. Swamination
SEMESTER–V

FASHION DESIGNING AND GARMENT CONSTRUCTION
(VOCATIONAL)

HISTORIC COSTUMES OF INDIA AND WORLD–I
(THEORY)

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

1. Historic costumes of India and World:
   a) Egypt.
   b) Greece

2. Traditional Costumes of the Following States of India
   a) Punjab.
   b) Himachal.
   c) Jammu & Kashmir.
   d) Maharashtra.
   e) Rajasthan.

3. Traditional Textiles of India:
   a) Jamdhani & Baluchari of Bengal.
   b) Tanchoi & Patola of Gujarat.
   c) Chanderi & Maheshwari of M.P.

General Instructions to the paper Setter:
The question paper consists of eight questions, out of which student will attempt five.
All questions carry equal marks.

Reference Books:

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<tr>
<td>1.</td>
<td>Traditional Indian Textiles</td>
<td>Vandana Bhandari</td>
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<tr>
<td>2.</td>
<td>Costume Textiles and Jewellery of India</td>
<td>Phyllis Tortora</td>
</tr>
<tr>
<td>3.</td>
<td>Survey of Historic Costumes</td>
<td>Roshan Alkazi</td>
</tr>
<tr>
<td>4.</td>
<td>Ancient Indian Costume</td>
<td>Roshan Alkazi</td>
</tr>
<tr>
<td>5.</td>
<td>Medieval Indian Costumes</td>
<td>Roshan Alkazi</td>
</tr>
<tr>
<td>6.</td>
<td>History of Fashion</td>
<td>Sodhia, Manmeet</td>
</tr>
</tbody>
</table>
SEMESTER–V

FASHION DESIGNING AND GARMENT CONSTRUCTION
(VOCATIONAL)

ADVANCE DESIGNING, CONSTRUCTION & DRAPING–I
(PRACTICAL)

Time: 4 Hrs.  
Periods/week: 2x6  
Marks: 60

Part–I

Sample making of following
1. Pockets – Cross, Welt, Bound.

Design Draft and Construct following:
1. Night Wear.
2. Trouser / Culottes / Hipsters.

Part–II

1. Draping of Basic Bodice Block Front.
2. Draping of Basic Bodice Block Back
3. Draping of Bodice with princess line

General Instructions for the Paper Setters:
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.
2. Draping of any Block.

Note: Please send the material list along with.
SEMESTER–V

EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL)
(THEORY)

Time: 3 Hrs. 
Lectures/week: 6 Theory

Max. Marks: 100
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:
Integration in Early Childhood Care and Education
- Handicapped children
- Types of handicaps
- Identification of children with special needs
- Integration with normal children
- Basic needs of handicapped children

Roles and Responsibilities of Staff
- Administration and supervision
- Qualities of a good teacher and supervisory staff
- Capacity building in staff
- Pre-school personnel’s and their training

Substitute Child Care
- Substitute child care
- Needs of infant and children
- Kinds of substitute child care
- Role of Nursery school/balwadi’s

Integrated Child Development Scheme
- Packages of services
- Objectives of ICDS
EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL) (PRACTICAL)

Time: 3 Hrs.  Marks: 40
Lectures/week: 4 Practical

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:

* Use of appropriate psychological tools to identify developmental needs of children with special needs.
* Organizing a Parent Education Programme.
* Preparation of interactive material for children with special needs
* Preparation of activities/ material for enhancing physical and mental abilities of pre-school children
SEMESTER–V
FOOD SCIENCE & QUALITY CONTROL (VOCATIONAL)
FSQC-9: FOOD ANALYSIS (THEORY)

Time: 3 Hours

Max. Marks: 75

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
1. Food Composition and factors effecting food composition.
2. Sampling techniques and preparation of sample.
   a. Electronic determination.
   b. Refractometry.
   c. Polarimetry and polarography

PART-II
4. General Chemical Methods of analysis of food
   d. Food rheology.
   e. Viscosity.
   f. Surface tension.
   g. Freezing point
   f. Specific gravity

PART-III
(b) Total protein, Non protein and specific protein in foods, total fat and different types of lipids.
(c) Macro nutrients i) Sodium, K.P. Ca, Mg, Fe, Zn. ii) Vitamins iii) Trace Elements

Reference Books:
1. Manuals of Food Quality Control additions contaminants techniques, 1980.
SEMESTER–V

FOOD SCIENCE & QUALITY CONTROL (VOCATIONAL)

FSQC-10: FOOD ANALYSIS (PRACTICAL)

Max. Marks: 25

List of Practicals:

1. a Lactometric determination
b. Refractrometry
c. Polarimetry and polarography
d. Food Rheology
e. Viscosity
f. Surface tension
g. Freezing point.

2. Proximate composition of food using various techniques.

3. Estimation of different minerals in food using various methods.

4. Estimation of vitamins in food using analytical and microbiological techniques.

5. Estimation of crude, dietary and other fibre components.
SEMESTER–V
FINE ARTS
(DRAWING & PAINTING)

PAPER: A–THEORY

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

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

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 paintings 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–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.

History of Modern Movement in Europe:

1. Impressionism: Monet- Impression Sunrise, Rouen Cathedral. (ADDED)  
Renoir – The Umbrellas, Lunch on the boat. (ADDED)
2. Post Impressionism:
   (i) Cezanne- Card players, Still life with apples  
   (ii) Vangogh- Starry night, Sunflowers
3. Expressionism:
   (i) Munch- Cry, Dance of life  
   (ii) Kandinsky- Blue mountain, Improvisation 30
4. Cubism:
   (i) Picasso- Les Demoiselles D’ Avignon, Guernica  
   (ii) Braque- Still life, The Portuguese
5. Surrealism:
   (i) Salvador Dali- Persistence of Memory, Burning Giraffe  
   (ii) Max Ernst- Celebes, Europe after rain
SEMESTER–V

FINE ARTS
(DRAWING & PAINTING)

PAPER: B– LANDSCAPE (ON THE SPOT)
(PRACTICAL)

Time: 5 Hrs

Marks: 25

Work Load:

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

Arrangement of shape based on subjects like human forms and animal forms.

In landscape setting emphasis should be given on perspective, Colour and its application in harmony.

Medium: Any medium

Size: ½ Imperial
SEMESTER–V

FINE ARTS
(DRAWING & PAINTING)

PAPER: C–FULL LIFE DRAWING
(PRACTICAL)

Time: 5 Hrs
Marks: 25

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

Rendering of full life study should be done in any medium. Emphasis should be given to structure, volume, proportion, tones and texture in monochromatic Colour.

Medium: Any medium
Size: ½ Imperial

Candidates will submit:-
(i) 5 sheets of each paper
(ii) Sketch book containing 50 sketches.
Outlines of Test, Syllabi, and Courses of Reading

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 Indian Painting from C.1850 to the present times-

Company painting
Raja Ravi Verma.

Bengal school with reference to Rabindranath Tagore, Nand Lal Bose, Gagendernath Tagore.

Post Independence Artists-
Amrita Shergil, Gemini Roy, D.P.R. Chowdhary, Shobha Singh, M.F. Hussain, Satish Gujral, Subodh Gupta.
Time: 3 Hours

Max. Marks: 50

Outlines of Test, Syllabi, and Courses of Reading:

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 India Sculptures- from C.600 A.D. to C.1300 A.D.
Pal and Sena School of Bengal, Bihar and Orrisa
Pratihara sculptures of Central and western India
Chola sculptures – Stone and Bronze.
SEMESTER–V

GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)
(THEORY)

Time: 3 Hrs

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

Section–A: 2 marks for 10 short answer questions. All the questions are compulsory.

\[ 02 \times 10 = 20 \]

Section–B: The examiner will set 5 questions and the candidate will attempt 3 questions.

\[ 03 \times 10 = 30 \]

1. Casting
2. Polishing
3. Electroplating
4. Electroforming
5. Chemical Finishing
SEMESTER–V

GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL) (PRACTICAL)

Marks: 50

Manufacturing:

1. Domestic Jewellery - Creation of 3 final designs in relation to Indian Jewellery.
   Kundan, Meena work, stone setting (Through J.Cad)

2. Export Jewellery - Creation of 3 final designs in relation to export market like U.K, USA, China etc.

   Exercise on: Jali Work, Riveting, Silver Ring, Pendent Making, Development of Pendant, Earings Broches
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20)
(Faculty of Visual Arts & Performing Arts)

SEMESTER–V

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 3 (three) marks.
(Total: 30 Marks)

Section–B: It will consist of 4 questions. Student will attempt any 2 question. Answer will carry 10
(ten) marks.
(Total: 20 Marks)

Course Contents:
1. Pre-script Stage: Background
2. Communication Objectives—Identify and presentise
3. Target Audience—Identify and presentise
4. Creative Treatment
5. Microphones—Different types.
6. Mikes—Special types and accessories, wireless, lappet, reflector type, short again.

Introductory lectures on:
- Overhead Projector.
- Hand held picture/chart slide presentation
- Multi Projector single screen with dissolves
- Multi Projector Multiscreen

Emphasis on:
- Multi Projector
- Script
- Visualisation
- Photography
- Graphics

Suggested Readings:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Book Name</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Effects and Experiments in Photography</td>
<td>Pet old- Focal</td>
</tr>
<tr>
<td>2.</td>
<td>Basic Photography</td>
<td>John Hedgecoe</td>
</tr>
</tbody>
</table>
SEMESTER–V

STILL PHOTOGRAPHY & AUDIO PRODUCTION (VOCATIONAL)

ADVANCE PHOTO TECHNIQUES
(PRACTICAL)

Time: 6 Hours
Marks: 50

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

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

Course Contents:
1. Use a medium format cameras and appreciate the difference.
2. Expose Raw stocks of different kinds, Find out their Characteristics.
3. Use lenses of different kind to see its various uses.
5. Black and White processing and printing (only demonstrations)
6. Indoor lighting arrangement for Poliant and Table Tops.
7. In-camera Special Effects.
8. Post exposure SFX Special Effects.

Suggested Readings:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Book Name</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Color Prints</td>
<td>Coote-Focal</td>
</tr>
<tr>
<td>2.</td>
<td>Guide to the Dark Room</td>
<td>Gaunt- Focal</td>
</tr>
</tbody>
</table>
Time: 3 Hours

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:
  a. Development of Printing Press in India (Ancient, Medieval, Post-Independence)
  b. Aesthetic of Commercial Art
  c. Letter Press for printing
  d. Trade Mark
  e. Brand Name
  f. Preparing Product Packaging
  g. Block Making

Suggested Readings:-

<table>
<thead>
<tr>
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<th>Book Name</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Introduction to Printing</td>
<td>Herbert Simon</td>
</tr>
<tr>
<td>2.</td>
<td>Design</td>
<td>Peter Bridgewater, Brain Lewis, Brett Beckon</td>
</tr>
</tbody>
</table>
SEMMESTER–V
APPLIED ARTS

INDOOR CAMPAIGN: FOLDER AND LAYOUT
(PRACTICAL)

Time: 6 Hours  Marks: 50

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 layout and folder can be taken. Logo and writing style of the existing company can be taken from any available source.
4. Any one of the above (Folder and Layout) 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:
Folder: Prepare 2 fold or 3 fold folders as asked by the teacher.
Topics: Commercial and Educational

Layout: Prepare Layout for Magazine
Topics: Commercial and Educational

During examination, use of stencil, Transfer letters, Screens are allowed. Limited references while preparing layout and folder can be taken.

Suggested Readings:-

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Book Name</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Advertising Procedure</td>
<td>Otto kleppner</td>
</tr>
<tr>
<td>2.</td>
<td>Design</td>
<td>Peter Bridgewater, Brain Lewis, Brett Beckon</td>
</tr>
</tbody>
</table>
SEMMESTER–V

SCULPTURE
(THEORY)

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

Note:
(i) The question paper should cover the entire syllabus. It may contain very specific content related question.
(ii) The paper setter should set fifteen (15) questions in all and students shall attempt 10 ten questions.
(iii) The questions can be repeated from previous question paper.

Chapter–I

Gupta Sculptures

- Mathura Centre (standing Vishnu, Standing Buddha, Vishnu Anant Shayian from Dasavat temple, Deogarh, Vishnu of Vaikuntha from Mathura)
- Sarnath Centre (Life of Buddha Panel, Seated Buddha preaching the Sermon of Law and Copper Buddha from Sultan Ganj)

Chapter–II

Pallava’s Sculpture including Rath temples.

Chapter–III

Art of Sun temple of Konark (Odisha)

Chapter– IV

Sculptures of Kailashnath Temple, Ellora.

Chapter– V

Chola Bronzes sculptures including techniques, Shiv Natraj and Parvati Sulptures.

Chapter–VI

Sculptures of Elephanta Caves (Marriage of Shiva and parvati, Shiv Maheshamurti, including main features of the Sculptures.)
SEMESTER–V

SCULPTURE
(PRACTICAL)

Time: 6 Hrs  Marks: 50

1) Low Relief Sculptures in Geometrical pattern, Cast in Plaster of paris (POP) / Cement / Metal based on birds, Flora and Fauna. (Minimum Size 10 X 10 inches), Total no. of work–1

2) Composition in round sculpture based on human figures. Work should be produced in PoP / cement / Metal. Total no. of work–1

3) Creative Head in Clay Modeling, work should be produced in PoP / Cement / Terracotta.

Books Recommended:

1. History of Fine Arts in India and West  By Edith Tomory
2. Indian Art ( A concise History)  By Roy C Craven
3. A Survey of Indian Scultures  By S. K Sarawati
4. Indian Sculpture  By Stella Kramisch
5. Murti Kala Ka Itihaas  By Aggar Ali kadavi
6. The Pelican History of Art  By Benjamin Rowland
7. Indian Images—Part I, II  By D.C. Bhattacharya
8. Mathura ki Murtikala  By Neel Kanth Purshottam Joshi
9. An Interesting Survey  
   (Sculptures from konark)  By T.N Ramachandran
10. South Indian Bronzes  By O.C Gangoli
SEMESTER–V
MUSIC (VOCAL)
(THEORY)

Theory: 3 Hours
Theory: 3 Periods per week

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

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

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 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. Importance of Globalization in Indian music in Modern Period.
2. Development of Indian Notation System and its merits and demerits.
3. Short notes on the following:
   a. Thumri
   b. Tappa
   c. Chaturang
4. Detailed knowledge of folk music of Punjab.
5. Detailed description of the following Ragas:
   a. Darbari
   b. Tilang
   c. Kedar
6. Detailed study of the following Talas:
   a. Deepchandi
   b. Tilwara
7. Essay writing on the following topics:
   a. Kanth Sadhna (Voice Culture)
   b. Manch Pradarshan (Stage Performance)
8. Life and Contribution of the following Musicians:
   a. Dalip Chandra Bedi
   b. Acharaya Brehaspati
   c. Surinder Kaur
9. Inter-relationship between Music and Yoga.
10. Classical Gayan Shaillies used in Gurmat Sangeet.
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20)
(Faculty of Visual Arts & Performing Arts)

SEMIESTER–V

MUSIC (VOCAL)
(PRACTICAL)

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

1. One Drut Khayal in each of the following Ragas with simple Alaps and Tanas: Darbari, Kedar, Tilang.
2. One Vilambit Khayal in any of the Ragas prescribed in the course with simple Alaps and Tanas.
4. One Ghazal.
5. One Chaturang or Trivat in any Raga of Your Choice.
6. Ability to recite Deepchandi and Tilwara showing Khali Tali with hand motion in Ekgun, Dugun Layakaris.
7. Ability to play theka of Jhap Taal on Tabla.
8. Ability to play five alankars on the Harmonium based on the Asawari Thata.

Books Recommended:

5. Sangeet Nibandhvli, Dr. Gurnam Singh, published by PunjabiUniversity, Patiala.
6. Gurmat Sangeet, Prabandh ate Pasaar, Dr. Gurnam Singh.
SEMESTER–V

MUSIC (INSTRUMENTAL)
(THEORY)

Theory: 3 Hrs.  Total Marks: 100
Theory: 3 periods per week.  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. Development of Music during modern period.
2. Comparative study of Avirbhava & Tirobhava with illustrations.
3. Relevance of time theory in Music.
4. Life & Contribution of the following Musicians.
   a. Pt. Ravi Shankar (Sitar)
   b. Ustad Bismillah Khan (Shehnai)
5. Study of Musical Electronic Instruments.
6. Inter relation between folk & classical music.
8. Knowledge of the following Ragas:–
   a. Multani
   b. Adana
   c. Puriya Kalyan
9. Detailed knowledge of following Talas :–
   a. Deepchandi
   b. Tilwara
10. Study of Kirtan Chowkies in Gurmat Sangeet.
SEMESTER–V

MUSIC (INSTRUMENTAL)
(PRACTICAL)

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

1. Ability to play 10 Alankars in Sitar in the Swaras of Asawari That.
2. One Maseetkhani gat in any Raga prescribed in you course Darbari, Todi and Puriya Dhanashri.
3. One Rajakhani Gat in each Raga prescribed in your course.
5. Ability to recite on hand Deepchandi & Tilwara Tal with single & Double Layakaryas.
6. Ability to play theka of Jhap Tal on Tabla.
7. Ability to play One gat in Ektal in any Raga prescribed in your Course.
8. Ability to sing national anthem with any instrument.

Books Recommended:

5. Sangeet Shastra Darpan Shanti Govardhan.
7. Gurmat Sangeet, Prabandh ate Pasaar, Dr. Gurnam Singh
9. SangeetNibandhavli, Dr. Gurnam Singh, published by PunjabiUniversity, Patiala.
Time: 3 Hours

Max. Marks: 100

Periods/week: 3

Theory Marks: 50

Practical Marks: 50

Instructions given to the Paper Setters are as under:-

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 Bharat Natyam with its historical background, style, costume and music etc.
2. Knowledge of Bhav, Sthai Bhav, Vibhav, Anubhav and Sanchari Bhav.
4. Gati Bhedas and Sthanak Bhedas according to Abhinaya Darpan.
5. Importance of background music in Dance.
8. Notation of:

(i) BASANT TAAL -- 9 Matras
   a) Tatkar in Ekgun, Dugun and Chougun Layakaries.
   b) Thaat- 2
   c) Tehai-1
   d) Amad-1
   e) Tora-2
   f) Paran-1
   g) Chakardar Paran – 1
   h) Kavit-1
   i) Pramela – 1

(ii) ADA – CHAUTAAL -- 14 Matras
   a) Tatkar in Thah, Dugun and Chougun Layakaries.
   b) Thaat- 1
   c) Amad-1
   d) Damdar and Bedam Tehai – 1 - 1
   e) Tora-2
   f) Paran-1
   g) Chakardar Paran – 1
   h) Kavit-1

10. Definition and Notation of the following Talas in Ekgun, Dugun, Tigun and Chougun Layakaries:
   a) Basant Taal
   b) Ada - Choutaal
SEMESTER–V

INDIAN CLASSICAL DANCE
(PRACTICAL)

Time: 20 Minutes
Periods/week: 9

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 as a base set for each class from practical of prescribed syllabus on the spot.

Instructions for the Examiner: The Examiner will set practical paper on the spot.

1. BASANT TAAL (MATRAS - 9)
   a) Tatkar in Ekgun, Dugun & Chougun Layakaries.
   b) Thaat - 2
   c) Tehai - 1
   d) Amad -1
   e) Tora - 2
   g) Paran -1
   h) Chakardar Paran - 1
   i) Kavit - 1
   j) Pramelu - 1

2. ADA – CHOUTAAL (MATRAS - 14)
   a) Tatkar in Ekgun, Dugun & Chougun Layakaries.
   b) Thaat - 1
   c) Amad - 1
   d) Damdar and Bedam Tehai – 1- 1
   e) Tora - 2
   f) Paran - 1
   g) Chakardar Paran - 1
   h) Kavit - 1

3. Padhant of all the Practical material in given Taals.
4. Padhant of all thekas in Dugun & Chougun Layakaries.
5. Gat – Bhav in Radha – Krishan leela.
7. Ability to play the theka of Ekeharva Taal on Tabla.
8. Ability to sing a Stuti with Harmonium.

Books Recommended:
5. Kathak Nritya Shiksha Part-I & Part II, Dr. Puru Dadhich, Bindu Prakashan, Ujjain (MP).
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20) (Faculty of Visual Arts & Performing Arts)

SEMESTER–V

TABLA (THEORY)

Theory: 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 Vadhyas to the played on the basis of Indian Classical Music).

COURSE CONTENTS:
1. Historical development of Avanad Vadhaya.
2. Detailed knowledge of Dakshini Tala System.
3. The role of Farukha-baad Gharana in promoting female artists.
4. Notation & description of:
   a. Pancham Swari Taal-One Peshkar, Two Kayada, Five paltas with Tihai, Two Tukdas, Rella, One Chakradar Paran,
   b. Tivra Taal with proper vadan shally of Pakhawaj -Two Tukdas, Two Rella, Two Tihais.
5. Life & Contribution towards music of the following:
   a. Qadar Baksh
   b. Karamatullah Khan
   c. Ayodhya Prasad
6. Explanation of the following Terms.
   a. Taal Kachaihri
   b. Partal
   c. Tabla tarang
   d. Prastaar
7. Write an essay on the following topic:
   Importance of electronic musical instruments in teaching.
8. The Place of tabla in Shaan (in the context of Gurmat Sangeet)

Books Recommended:
SEMESTER–V

TABLA
(PRACTICAL)

Time: 20 minutes for each student
9 periods/week.

Marks: 50

1. Taal Prescribed Pancham Swari, Tivra
2. Pancham Swari Taal-One Peshkar, Two Kayada, Five paltas with Tihaai, Two Tukdas, Rella,
   One Chakradar Paran
3. Tivra Taal with proper vadan shally of Pakhawaj -Two Tukdas, Two Rella, Two Tihais.
4. Ability to play Nagma on Harmonium in Pancham Swari and Tivra taal.
5. Ability to play Theka of Sooltal and Mat tal.
6. Practice of playing the above Taals with Vocal and Instrumental performance.
7. Tuning of Tabla.
8. Ability to play Western patterns of Taal – Keharva and Dadra on tabla

Books Recommended:

SEMESTER–V

COMPUTER SCIENCE
DATA BASE MANAGEMENT SYSTEM & ORACLE
(THEORY)

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

Instructions for the Paper Setters:-

Note: (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 of equal marks.
(ii) The maximum marks for the paper will be 75.
(iii) As for as possible except in the Computer language papers no programme may be asked in theory papers. Emphasis should be on algorithm development.
(iv) The students can use only Non Programmable and Non Programmable storage type calculator in the subjects/papers pertaining to computer.

UNIT–I

DBMS
Introduction to database management system, components of DBMS, ER. Diagrams, Data Description Language, Data Manipulation Language, SQL.
Data Models, Hierarchical Model, Network Model and Relational Model, Relational Databases.
Relational Algebra and Calculus Normalisation.
Database Security, Protection, Integrity, Recovery, Concurrency, Control, Decomposition.
Distributed Databases, Knowledge Base/Expert Systems and Object Oriented Databases.

UNIT–II

Oracle 10g
SQL * PLUS
Introduction to Oracle 10 SQL – DDL, DML, DCL.
Join methods & Sub query, Union, Intersection
Built in Functions, View Security amongst users, Sequences, indexing object Features of Oracle 10.

UNIT–III

PL/SQL
Introduction to PL/SQL.
Cursors – Implicit & Explicit.
Procedures, Functions & Packages.
Database Triggers.

References:
SEMESTER–V

COMPUTER SCIENCE
DATA BASE MANAGEMENT SYSTEM & ORACLE
(PRACTICAL)

Marks: 25

Practical: Based on Database Management System and Oracle

Note: Practical marks will include the appropriate weightage for proper maintainance of Lab.
SEMESTER–V

INFORMATION TECHNOLOGY (VOCATIONAL)

OPERATING SYSTEM

(THEORY)

Time: 3 Hours

Max. Marks: 100

Theory Marks: 75

Practical Marks: 25

Note for Paper Setters:

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

(ii) The maximum marks for the paper will be 75.

(iii) As for as possible except in the computer language papers no programme may be asked in the Theory papers. Emphasis should be on algorithm development.

UNIT–I


UNIT–II

Process Concept, Process Scheduling, Context Switching, CPU Scheduling: Basic Concepts, Scheduling algorithms.

Deadlocks: Deadlocks Characterization, Memory Management: Logical versus physical address space, paging, segmentation, Virtual memory, Demand Paging Technique.

UNIT–III


Windows NT Study as an Example of Operating System,

Reference:


(PRACTICAL)

Marks: 25

Practical on the basis of Operating System
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20)
(Faculty of Engineering & Technology)

SEMESTER–V
COMPUTER MAINTENANCE (VOCATIONAL)
(THEORY)

NETWORKING OPERATING SYSTEMS

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

Instructions for the Paper Setters:-
1. Eight questions are required to be set giving the weightage to all the portions. The candidate will be required to attempt any five questions. All questions will carry equal marks.
2. The maximum marks for the paper will be 75.
3. As far as possible except in the computer language papers no programme may be asked in the Theory Paper, emphasis should be on algorithm development.

UNIT – I
Introduction of various Network Operating Systems (Windows 9x/XP/2000/NT)

UNIT – II
Windows 2003 services Architecture and security Architecture, planning and managing group and user accounts File services, distributed file system, remote administration, remote access services, Internet & Intranet. Printing and supporting network clients, performance tuning.

UNIT – III
Introduction to Windows NT, features, Hardware requirements. Windows NT services Architecture and security Architecture, planning and managing group and user accounts File services. Installation of Windows NT.
Concept of distributed Networks, E–mail & Internet Technology.

Text & Reference Books:

Network Operating Systems Lab
Installation of Windows NT.
Implementing LAN using workgroup model and windows 2003.
Implementing LAN using Windows 2003 Domain model.
Using user manager for Domains in Administration.
Assigning user rights and permission on different objects.

(PRACTICAL)  Marks: 25

Practical on the basis of Operating System
SEMESTER–V

COMPUTER APPLICATION (VOCATIONAL)
(THEORY)

INTERNET AND WEB DESIGNING

Time: 3 Hrs

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

Instructions for the Paper Setters:–

Note: (i) Eight questions are required to be set giving the weightage to all the portions. The candidates will be required to attempt any five questions. All questions will carry 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
1. BBS
2. Intro to Internet

UNIT – II
3. E–Mail, Browsers
4. HTTP, WWW, Shell, TCP/IP–(PPP, SLIP)

UNIT – III
5. FTP
6. HTML, Web Designing

(PRACTICAL)

Marks: 25

Practical Based on Internet and Web Designing
Time: 3 Hours

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**
Microprocessor, microprocessor architecture and its operations, computer languages, introduction to assembly language, instruction classification, instruction format, microprocessor instruction set.

**UNIT – II**
Introduction to 8085 instructions, data transfer operations, arithmetic operations, logic operations, branch operations. how to write, assemble and execute a simple program, memory, input and output devices the 8085 MPU, example of an 8085-based microcomputer.

**UNIT – III**
Memory interfacing, basic interfacing concepts, interfacing I/O devices, memory mapped I/O, comparison of memory mapped I/O and peripheral mapped I/O programming of the 8085.

Suggested Readings:
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
Amplitude modulation
Need for modulation, amplitude modulation, frequency spectrum of the AM wave, representation of AM wave, power relations in AM wave, generation of AM, base modulated class C amplifier, collector modulated class C amplifier, single side band techniques, suppression of carrier, suppression of unwanted sideband using the filter system and phase shift method.

UNIT–II
Frequency modulation
Frequency modulation, theory of frequency and phase modulation, description of systems, mathematical representation of FM frequency spectrum of the FM wave, phase modulation, intersystem comparisons, generation FM, direct method, stabilized reactance modulator-AFC, indirect method.

UNIT–III
Radio receiver, receiver types, tuned radio frequency receiver, superheterodyne receiver, AM receivers, RF section and characteristics, Frequency changing and tracking, intermediate frequencies and IF amplifiers, detection and automatic gain control (AGC), FM receiver, comparison with AM receivers, amplitude limiting, basic FM demodulator, ratio detector, FM demodulator comparison.

Books:
List of Practical

1. To study the amplitude modulation and demodulation experimental boards.
2. To study the frequency modulation and demodulation experiment boards.
3. To study the function of a superhetrodyne receiver.
4. To study the operation of balance modulator.

Books Recommended:

Programming using C Language

Max. Marks: 75

Note:
(i) The paper setter is required to set eight questions in all and the candidates will be required to attempt any five questions out of these eight questions. All questions will carry equal marks.
(ii) The student can use only Non-programmable & Non-storage type calculator.

C language preliminaries: Introduction to C, Identifiers and Key Words, Data types, Constants, Variables, Expressions, Statements.

Operators and I/O functions: Arithmetic operators, Unary operators, Relational Operators, Logical Operators, Assignment and Conditional Operators, getchar, putchar, printf, gets, puts

Control Statements: While, Do–while and for statements, Nested loops, If–else, Switch, Break – Continue statements.

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

Arrays and Pointers Defining, processing an array, passing arrays to a function, multi-dimensional arrays, Introduction to pointers, Operations on pointers, Pointers and array.

Structure and Union: A simple structure, specifying the structure, defining a structure variable Accessing Structure member, Structure within structure, union, difference between structure and union.

References:

1. Let us C, Yashwant Kanetkar
2. C – programming E. Balagurusamy Tata McGraw Hill
3. Complete reference with C Tata McGraw Hill
SEMESTER–V

INFORMATION TECHNOLOGY SPECIALIZATION SOFTWARE DEVELOPMENT (VOCATIONAL)

Lab – I: Programming in C Language

Time: 3 Hrs.                             Max. Marks: 25

Practical based on Programming in C language
SEMESTER–V

AUTOMOBILE MAINTENANCE (VOCATIONAL)
(THEORY)

Time: 3 hours
Periods per week Theory: 6
Max. Marks: 60

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 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 up to 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 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 15 marks; total weightage of the section being 30 marks.

Unit–I

Objective of transmission: Resistance, Variation of tractive efforts and total resistance with speed, Sliding mesh gearbox, Sliding mechanism, Constant mesh gearbox, Synchoromesh gearbox, Simple epicyclic gear, Automobile epicyclic gearbox, General deduction, Mechanism of epicyclic gearbox, Pre-Selector Gearbox, Torque converter, Free Wheel Unit overdriver, Gearbox troubleshooting, Transmission trouble diagnosis, Four wheel drive and transfer case operation and service, Drive lines and universal joints, Differential and drive axle

Unit–II

Springs and Suspension Systems: Introduction, Objects of suspension, Rate and frequency, Basic requirements, Classification of suspension springs, Adjustable and self adjusting suspensions, Interconnected suspension systems, Independent front suspension, Independent rear suspension, Shock absorbers, Suspension systems troubleshooting

Unit–III

SEMESTER–V

AUTOMOBILE MAINTENANCE (VOCATIONAL)

(PRACTICAL) LAB–I

Time: 3 Hours                          Total Marks: 40

Periods per week: Practical: 4

1. To study the Gear box dismentling and Assembling/Servicing.
2. To study the Drive shoft and universal/Joint opening.
3. To study the Steering wheel/Droparm, Tie rod opening.

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

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)
PAPER–I (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


UNIT–II


UNIT–III

SEMESTER–V

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)
PAPER–J (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

Electric Defrosting: Electric Control Defrosting, Electric Air Switch Defrosting System, Two outdoor units system, Multiple evaporator defrosting.

UNIT–II

Electric Controls: Introduction, Water Level Control, High Pressure control, Low pressure control, Superheat control, Superheat and pressure limit control, over Protection control, Temperature Differential and Temperature Range control Capacity control Devices.

UNIT–III

SEMESTER–V

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 various Gas charging in a Refrigerating system and testing for leakages
2. To study the Gas charging in a Air conditioning system and testing for leakages
3. To test and adjust low pressure out. (L.P.).
4. To test and adjust high pressure out. (H.P.)
5. To test and adjust thermostat.

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>
</tr>
</tbody>
</table>
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20)  
(Faculty of Humanities and Religious Studies)

SEMESTER–V

RELIGIOS STUDIES (पवन अविषेध)

(भिन्न उपमान)

सभी 3 अंके  
हैवचर ची गिनती:75%

भाषा टेस्ट तीनी अंक:35

पेपर मैट्रिक रही चरणियाँ:
पेपर के पूरे जाने तेही: दी, भ, द, म, आधे ट। जान दी, भ, द, म दीनें 2-2 व्युत्क्रम पृष्ठ नाहीं तरिके। में सिद्धांतीय असामान्य टैब टिंक-टिंक धुमस्त बजम वेदियो अने टैब टिंक धुमस्त ते 15 अंके तेही। जान उ दीनें समय टिंक-टिंक राहे 10 धुमस्त बजम वेदियो, निवेच माने निर्देशम दीनें वेदियो। उतवेल धुमस्त ते 4-4 अंक तेही।

पूर्विकात्मक रही चरणियाँ:
जान दी, भ, द, म दीनें वेदियो टिंक-टिंक धुमस्त बजम ते ह में जान उ ते माने धुमस्त मूलता तरिके।

जान (दी) : मित्त संवर्धन-जान पवित्रा

1. भवान युवन  
2. मित्तीय उच्चता  
3. सीराउभा

जान (भ) : मित्त संवर्धन-जान पुराना

1. युवन  
2. मित्तल  
3. मेंहा

जान (छ) : मूर गूढ गौरव माध्यिक

1. मूर गूढ गौरव माध्यिक: साठ ब्लास्ट  
2. बादी रा मेंवार  
3. बादी रा मेंवार

जान (म) : मूर गूढ गौरव माध्यिक बीजुंगें पुष्पः घरटां

1. नये अग्नि माध्यिक  
2. गूढ़ अग्नि देव नामे मेंवार  
3. संवर्धन माध्यिक

जान (छ) : संवर्धन टेस्ट राहे 10 धुमस्त
English:


Punjabi:

1. आज्ञावज्ञान, समाजीय सिद्ध, सिद्ध इलाम्बर दी ज्ञानिक, विद्वान उच्चतर धृतमृत, चंद्रबन, 1976.
2. में सिद्ध, गुरुमख रावन, मृत्यु मृत्यु धृतमृत धृतमृत धृतमृत, भूजिमल, 1982.
3. साहित्य सिद्ध, नरेंद्र गुरु अंतर जापस सिद्ध सन्ती, सिद्ध धृतमृत, भूजिमल, 2011.
4. वैद्यवन, मंदिरुल सिद्ध, सिद्ध पाल रावन, धृतमृत धृतमृत धृतमृत, भूजिमल, 1969.
5. बीर, नरेंद्रच देव, गृह गृह साहित्य दी समर्पित लड़, नृत्यधृतमृत, हिंदी, 1974.
6. गुरुसूच सिद्ध, गुरुमख रावन (भाषा देश उपजाती); धात, धृतमृत धृतमृत धृतमृत, भूजिमल, 2008.
7. उच्च सिद्ध, गुरुमख रावन, हिंदी सूच बोधी, नृत्यधृतमृत, 2002.
8. पक्ष, विश्वास सिद्ध, मह गृह गृह धृतमृत, व्यभिचार मंत्र, भूजिमल, धात, धृतमृत, 1977.
SEMESTER–V
PHILOSOPHY
WESTERN METAPHYSICS AND EPISTEMOLOGY

Time allowed: 3 hours
Max. Marks: 100
Lectures to be delivered: 6 per week
Pass Marks: 35

Note: Instructions for the Paper-Setter
The question paper will consist of five sections: A, B, C, D & E. Sections A, B, C, & D will have two questions from each respective section of the syllabus and each question will carry 15 marks each. 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 type question carrying 4 marks.

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

Section–A
1. Introduction to Western Philosophy: Nature, Scope and Utility
2. Idealism: Subjective (Berkeley) and Objective (Plato).
3. Materialism: Mechanical and Dialectical.

Section–B
4. Monism (Spinoza)
5. Dualism (Descartes)
6. Pluralism (Leibnitz)

Section–C
7. Rationalism: Definition, Meaning and Characteristics
8. Empiricism: Definition, Meaning and Characteristics
9. Intuitionism: Definition, Scope and Characteristics

Section–E

Ten short answer type questions

Recommended Readings:

English Books

Punjabi Books
1. ਮੀਂਘੁ, ਨੀ.ਸੌਮ., ਟੂਰ ਭੀਆਂਮ ਅਤੇ ਕਰਾਰ ਭੀਆਂਮ, ਪੰਜਾਬੀ ਜੀਵਨਵਿਚਾਰਿਤੀ, ਪਾਸ਼ਾਲਾ।

Hindi Books
1. पृथ्वी, वासिंद्र, टूरम भीमभाई दी रचनाएं, मेडिसिनल लिवरफील्ड्स, दिल्ली, 2011.
## SEMESTER – V

### ZOOLOGY

<table>
<thead>
<tr>
<th>Paper</th>
<th>Maximum Marks</th>
<th>Hours of Teaching</th>
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<tbody>
<tr>
<td></td>
<td>Theory Marks</td>
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<td></td>
<td>Theory</td>
<td>Practical</td>
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<td>SEMESTER–V</td>
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<td>ZOO–VA</td>
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<td>(Developmental Biology)</td>
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<td>ZOO–VB</td>
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<td>(Genetics)</td>
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<td>PRACTICAL–V</td>
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<td>30</td>
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<tr>
<td>(RELATED TO ZOO-VA and ZOO-VB)</td>
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</table>
SEMESTER–V
ZOOOLOGY
ZOO-VA: Developmental Biology
(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)

UNIT-I
Gametogenesis with particular reference to differentiation of spermatozoa, vitellogenesis; role of follicle/subtesticular cells in gametogenesis
Egg maturation; egg membranes; polarity of egg
Parthenogenesis
Fertilization

UNIT-II
Cleavage and its patterns
Gastrulation
Determination and differentiation
Tissue interactions, basic concepts of organizers and inductors and their role
Embryonic development of Hardmania

UNIT-III
Development upto three germinal layers and their fate in frog and chick
Fate maps of chick and frog embryos
Metamorphosis in Frog

UNIT-IV
Embryonic development of Rabbit
Foetal membranes, their formation and role
Mammalian placenta–its formation, types and functions
Regeneration, Ageing and Death
Suggested Readings:

SEMESTER–V
ZOOLOGY
ZOO-V B: Genetics
(THEORY)

Max. Time: 3 Hrs. \hspace{1cm} 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
Multiple Alleles: Blood group inheritance, eye colour in Drosophila, pseudoallelism.
Multiple Factors: Qualitative and quantitative characters, inheritance of quantitative traits (skin colour in man).
Linkage: Linkage, sex-linked characters
Crossing Over and Recombination: crossing over, frequency of crossing over, cytological basis of crossing over, synaptonemal complex. Recombination in Fungi (Tetrad analysis).

UNIT-II
Gene and Genetic Code: Structure of nucleic acids (DNA & RNA).
Replication & transcription of DNA
Expression of gene (Protein synthesis in Prokaryotes and Eukaryotes).
Genetic code: Properties of genetic code, codon assignment, wobble hypothesis, split and overlapping genes,

UNIT-III
Regulation of gene expressions in prokaryotes (Operon model) in eukaryotes.
Extranuclear inheritance: Chloroplast with special reference to Mirabilis jalapa and kappa particles in Paramecium.

UNIT-IV
Population genetics: Equilibrium of gene frequencies and Hardy-Weinberg law.
Genetic recombination in bacteria (conjugation, transduction and transformation) and in plasmids.

Applied Genetics: Recombination DNA, Genetic cloning and its applications in medicine and agriculture, DNA finger printing.

Suggested Readings:-

SEMESTER–V

ZOOLOGY

Practical-V (Related to ZOO-V A and ZOO-V 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. Demonstrate the Law of segregation and independent assortment (use of coloured beads capsules etc.) Numericals for segregation, independent assortment and Epistasis as well as numerical based on chi square.
2. Demonstration of segregation in preserved material (Maize).
3. Demostation of cytoplasmic inheritance in snails.
4. Inheritance of human characteriscts.
5. Comparison of variance in respect of pod length and number of seeds/pods.
6. Calculation of gene frequencies and random mating (coloured beads, capsules).
7. Pedigree analysis
9. Study of the following permanent slides :
   • Polytene Chromosomes of Chironomus.
   • Stages of gametogenesis, structure of egg and sperm of a mammal.
   • Larva of Herdmania.
   • Developmental stages of freshwater snail (Limnaea), frog-upto tadpole, chick-upto 96 hr.
10. Preparation of charts showing developmental stages of any vertebrate.
11. Preparation of slide for Barr body from cheek cells.

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

Guidelines for conduct of Practical Examination:

1. Two Numericals based on Mendel/Hardy Weinberg Law.  10
2. Perform the experiment for Dermatoglyphics/ Random mating/ Pod Length.  4
3. Identification of given spots/slides.  6
4. Make a pedigree chart from the given data.  3
5. Chart/Assignment.  2
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
Plant-Water Relation: Importance of water to plant life, physical properties of water, (imbibition) diffusion and osmosis, absorption, transport of water and transpiration, physiology of stomata.

Unit-II
Mineral Nutrition: Essential macro-and micro-elements and their role, mineral uptake, deficiency and toxicity symptoms (hydroponics).

Unit-III
Photosynthesis: Significance, historical aspects, photosynthetic pigments, action and absorption spectra and enhancement effects, concept of two photosystems, z-scheme, photophosphorylation, Calvin cycle, C4 pathway, CAM plants, photorespiration.

Unit-IV
Growth and Development: Definitions, phases of growth and development, kinetics of growth, seed dormancy, seed germination and factors of their regulation, plant movements, the concept of photoperiodism, physiology of flowering, florigen concept, biological clocks, physiology of senescence, fruit ripening, plant hormones - auxins, gibberellins, cytokinins, abscissic acid and ethylene, history of their discovery, biosynthesis and mechanism of action, general account of salicylic acid, jasmonates and brassinosteroids, photomorphogenesis, phytochromes and cryptochromes, their discovery, physiological role and mechanism of action.

Suggested Readings:-
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

Unit-II
Respiration: ATP-the biological energy currency, aerobic and anaerobic respiration, Kreb’s cycle, electron transport mechanism (chemi-osmotic theory), redox potential, oxidative phosphorylation, pentose phosphate pathway.

Unit-III
Nitrogen and Lipid Metabolism: Biology of nitrogen fixation, importance of nitrate reductase and its regulation, ammonium assimilation, structure and function of lipids, fatty acid biosynthesis, β-oxidation, saturated and unsaturated fatty acids, storage and mobilization of fatty acids.

Unit-IV
Genetic Engineering: Tools and techniques of recombinant DNA technology, cloning vectors, genomic and cDNA library, transposable elements, techniques of gene mapping.

Biotechnology: Functional definition, basic aspects of plant tissue culture, cellular totipotency, differentiation and morphogenesis, biology of Agrobacterium, vectors for gene delivery and markergenes, salient achievements in crop biotechnology.

Suggested Readings:
1. To study the permeability of plasma membrane using different concentrations of organic solvents.
2. To study the effects of temperature on permeability of plasma membrane.
3. To prepare the standard curve of protein and determine the protein content in unknown samples.
4. To study the enzyme activity of catalase and peroxidase as influenced by pH and temperature.
5. Separation of chloroplast pigments by solvent method.
6. Determining the osmotic potential of vacuolar sap by plasmolytic method.
7. Determining the water potential of any tuber.
8. Separation of amino acids in a mixture by paper chromatography and their identification by comparison with standards.
10. Demonstration of the technique of micropropagation by using different explants, e.g. axillary buds, shoot meristems.
11. Demonstration of the technique of another pollen culture.
12. Demonstrate the ascent of sap using a dye.
13. Demonstration of root and shoot formation from the apical and basal portion of stem segments in liquid medium containing different hormones.
14. Demonstrate the transpiration pull by mercury method.
15. Demonstration of osmosis by potato osmoscope.
16. Comparison of loss of water from two surfaces of leaf by CoCl₂ method/four leaf method.
17. Demonstration of imbibition by plaster of peris method.
18. Demonstration that O₂ is evolved during photosynthesis.
20. Demonstration of phototropism movements.
21. Demonstration the measurements of growth by arc auxanometer.
22. Preparation of nutrient medium.
23. Sterilization of glassware and plant material.
25. Requirements for setting up the tissue culture laboratory.
Suggested Readings (For Laboratory Exercises)

SEMESTER–V
MICROBIOLOGY
APPLIED MICROBIOLOGY–I
(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
Microorganisms in Industry: Historical development definition and scope of industrial microbiology; contribution of Louis Pasteur in fermentation; sources of industrial microorganisms and their essential characteristics, natural habitats, cultural collections and preservation of stock cultures.

UNIT–II
Screening of Microorganisms: Isolation of industrially important microorganisms, primary and secondary screening methods for isolating useful Yeast, bacteria and fungi. Fermentation media: Composition of production media, characteristics of an ideal production medium, raw materials.

UNIT–III
Fermentation and Fermentation Processes: Fermentation as biological activity, Types of industrial fermentation’s (submerged, solid state and continuous fermentation). Design of fermentor (body construction, aeration and agitation and control of septic conditions), Basics of batch culture, fedbatch culture and continuous culture.

UNIT–IV
Recovery and purification of fermentation products: General principles of separation of fermentation products, solid particles, foam separation, separation by filtration, centrifugation, cell disruption, liquid-liquid chromatography, ion-exchange chromatography. Fermentation economics; plant fermentation designing, process designing, market potential and recovery costs for the industrial set-up.
Books Recommended:


1. Isolation of various types of microorganisms from (a) soil (b) fruits.

2. Screening of some industrially important microorganisms
   a. amylase producers.
   b. protease producers.

3. Protein estimation by Lowry method.

4. Preservation of industrially important microorganisms by various methods (a) storage in 10 % glycerol (b) storage in mineral oil.

5. Determination of % viability of Yeast cells by haemocytometer.
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
Physico chemical characteristics of soil, water and air in relation to microorganisms. Microbiology
of air, soil and water. Genetic & Physiological adaptations to environmental condition.

UNIT–II
Biogeochemical cycling of carbon, hydrogen, oxygen, sulphur, phosphorus-Interactions among
microbial population: Neutralism, Commensalism, Mutualism, Competition, Amensalism,
Parasitism, Predation, Mycorrhizal association.

UNIT–III
Agricultural Microbiology. Soil fertility and management of agricultural soil. Influence of available
nitrogen on soil fertility, Crop rotation, soil management practices, Biofertilizer, Mushroom
cultivation and their use.

UNIT–IV
Biological Control: General consideration, viral pesticides, Bacterial pesticides & fungal pesticides,
concept of biomagnification. Biodegradation of pollutants: Solid waste management, sanitary land
fills, composting, Treatment of waste, primary treatment, secondary treatments, tertiary treatment,
Disinfection.

Books Recommended:
Scientific, London.
1. Study of symbiotic/asymbiotic nitrogen fixing bacteria.

2. Study the process of ammonification.

3. To study nitrification in soil.

4. Isolation of *Aspergillus niger* from soil.

5. IMVIC test for water analysis.
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20) 
(Faculty of Life Sciences)

SEMESTER–V
MICROBIAL & FOOD TECHNOLOGY

APPLIED MICROBIOLOGY
(THEORY)

Time: 3 Hours
Max. Marks: 100
Theory Mark: 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
Microorganisms in industry: Historical development definition and scope of industrial microbiology; contribution of Pasterns in fermentation; sources of industrial microorganisms, essential characteristics, natural habitats, cultural collections and preservation of stock cultures.

UNIT–II
Screening of microorganisms: Isolation of industrially important microorganisms, Screening of useful yeast, Bacteria and Fungi. Fermentation Media: Composition of Production Media, characteristics of an Ideal Production Medium, Raw Materials.

UNIT–III
Fermentation and fermentation processes: Fermentation as biological activities types of industrial fermentation’s (sub-merged, solid state and continuous fermentation). Design of Fermentor (Body Construction, Aeration and Agitational and Control of Septic Conditions), Basics of Batch Culture, Fed-Batch Culture and Continuous Culture.
UNIT–IV

Recovery and purification of fermentation products: General principles of separation of fermentation products, solid particles, foam separation, separation by filtration, centrifugation, cell disruption, solvent extraction, ion-exchange chromatography.

Books Recommended:
SEMESTER–V
MICROBIAL & FOOD TECHNOLOGY
(PRACTICAL)

Time: 4 Hours

1. Determination of % gluten content & SDS value of wheat flour.
2. Isolation of bacteria, fungi from soil.
3. Isolation of amylase producing microorganisms from soil.
4. Isolation of yeast from fruits and flowers.
5. To study the growth curve of yeast.
6. Production of alcohol, lactic acid and yogurt.
UNIT–I
Sequence Alignment: Scoring matrices (PAM and BLOSUM), Local and Global alignment concepts, dynamic programming methodology (Needleman and Wunsh algorithm, Smith Waterman algorithm), Statistics of alignment score, Multiple Sequence alignment (Progressive alignment), Database searches for homologous sequences (Fasta and Blast versions).

UNIT–II
Fragment assembly: Genome sequence assembly, Gene finding methods: concept and signal methods, Background of transform techniques, Fourier Transform and Gene Prediction, Pattern and Motif searching, Analysis and prediction of regulatory regions.

UNIT–III
Neural Network concepts and secondary structure prediction. Probabilistic models: Markov chain (random walk), Hidden Markov models, Gene identification and other applications.

UNIT–IV
Evolutionary analysis: Basics of evolution: Rooted and unrooted trees, molecular clock theory, molecular markers used in studying evolution. Distances based methods and Clustering Methods of evolution, Bootstrapping strategies.
List of Books:

Tools to study local and global alignments.

To study multiple sequence alignment using Clustal-W and T-COFFEE.

To study gene prediction in Eukaryotes and Prokaryotes using GENSCAN, GLIMMER, GeneMark, ORF FINDER.

Evolutionary analysis using Phylip.
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20) (Faculty of Life Sciences)

SEMESTER–V
BIOTECHNOLOGY (VOCATIONAL)

rDNA TECHNOLOGY AND ANIMAL BIOTECHNOLOGY
(THEORY)

Time: 3 Hrs.
Teaching Hours: 6

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

Instructions for the Paper Setters and Candidates:
1. There will be a total of 9 questions
2. Question 1 will be compulsory and will be of 10 short answer type. (1½x10=15)
3. The remaining 8 questions shall include 2 questions from each unit. Candidates shall be required to attempt 1 question from each unit. All questions shall have equal marks. (15x4=60)

rDNA Technology

UNIT–I

DNA Modifying enzymes: Ligases for blunt & sticky end ligation, DNA Polymerases, Klenow fragment, Alkaline phosphatase, Polynucleotide kinase, Terminal deoxynucleotidyl transferase, Restriction enzymes, reverse transcriptase.

UNIT–II

Cloning Vectors for E.coli: features of plasmids and development of plasmids as vector (α-complementation) bacteriophages as vector, Genetic selection (HfL, SPI), Cosmids.

UNIT–III

Southern Hybridization, Methods of Transformation: CaCl₂, electroporation, transfection, micro projectile bombardment, Labelling of DNA and RNA- Radioactive labeling (Nick Translation, Random Priming, End Labelling), Non-Radioactive labelling (Direct & Indirect non isotopic labeling ), cDNA cloning: Linker, Adaptation, Different strategies for cDNA cloning- self priming, adaptor linker method, Introduction, principles & applications of PCR.
Animal Biotechnology

UNIT–IV

General metabolism (Glucose and Glutamine), inhibition of metabolism, Bioreactors for large scale culture of cells Growth factors promoting proliferation of animal cells (EGF, FGF, PDGF, IL-1, IL-2, NGF, erythropoietin etc.), The need to express proteins in animal cells. Transfection – vectors (P element vector, SV 40 vectors, BPV vector, reteroviral vectors), selectable markers, Transfection methods (Calcium Phosphate precipitation, DEAE Dextran, microinjection, electroporation, protoplast fusion, somatic cell nuclear transfer, lipofection)

UNIT–V

Expressing cloned proteins in animal cells - Insulin, Growth hormone, Interferon, t-plasminogen activator, factor VIII., Overproduction and processing of chosen protein. Production of vaccines in animal cells, Production of monoclonal antibodies, Stem cells-sources of stem cells & their applications.

Books Recommended:

SEMESTER–V

BIOTECHNOLOGY (VOCATIONAL)

rDNA TECHNOLOGY AND ANIMAL BIOTECHNOLOGY (PRACTICAL)

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

Isolation of chromosomal and plasmid DNA from bacteria

Isolation of genomic DNA from blood

Agarose gel electrophoresis

Spectrophotometer analysis of DNA.

Restriction digestion of DNA

Making competent E. coli

Transformation and selection of competent E Coli.
B.A./B.Sc. (Semester System) *(12+3 System of Education) (Semester–V) (Session 2019-20)*  
(Faculty of Education)

**SEMESTER–V**  
**EDUCATION**

**DEVELOPMENT OF EDUCATION IN INDIA**

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

**Instructions for the Paper Setters:**

**Note:** (i) The question paper will consist 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. Concept of Education in Vedic-Era with special reference to aims, curriculum & role of teacher  
2. Education in Buddhist period with special reference to aims, curriculum & role of teacher

**UNIT–II**

1. Salient features of Indian Education during Medieval period  
2. Recommendations of Major Commissions & Committee set up during British Period with special reference to Charter Act (1813), Maculay’s Minute (1835) and Wood’s Despatch (1854).

**UNIT–III**

1. Concept & features of Basic Education  
2. Constitutional Provisions of Education

**UNIT–IV**

1. Major recommendations of Secondary Education Commission (1952-53) and Indian Education commission (1964-66)  
2. Salient features of NPE (1986)

**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:

5. Govt. of India, Challenge of education, A Policy Perspective, New Delhi, 1986.
SEMESTER–V

HUMAN RIGHTS

PAPER – INTERNATIONAL 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
Organizations related to Human rights; Instruments of Human rights and covenants; role of UNO, UN Commission of Human Rights, UN children’s fund (UNICEF), UN commission on the status of Women, ILO, UNESCO.

UNIT–II
International humanitarian issues, laws and assistance.

UNIT–III
International Human rights provisions: Torture, custodial violence, disappearance, prisoners, and under trials.

UNIT–IV
Role of NGOs, role of Amnesty, Red Cross and NHRC

Recommended Books:
SEMESTER–V

DAIRY FARMING (VOCATIONAL)
(THEORY)

Time: 3 Hours
Periods per week: 6

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

Instructions for the Paper Setters:
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) Five short compulsory questions of two marks each requiring short replies up to five lines each. (Total marks: $05 \times 2 = 10$).
   b) Five questions of six marks each requiring short replies shall be asked. The candidate has the choice to attempt four questions. (Total Marks: $4 \times 6 = 24$).
   c) Two questions of descriptive type requiring five pages for each answer shall be asked. The candidate has the choice to attempt one question. (Total Marks: $16 \times 1 = 16$).
4. The question paper should cover the whole syllabus.

1. Fodder Production

2. Diseases of Cows and Buffaloes

3. Economics of Dairy Farming
SEMESTER–V

DAIRY FARMING (VOCATIONAL)

(PRACTICAL)

Total Marks: 50

Time: 3 Hours

Distribution of Marks:

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<th>Component</th>
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<td>Assignment</td>
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<td>Practical Note book</td>
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<td>Four Visits to Dairy Farms</td>
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<td>Oral Examination</td>
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<td>Written Test</td>
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Note: Preparation of Practical Note book and Dairy Farm Assignment is compulsory

1. Formulation and costing of Dairy Rations.
2. Expenditure and Income Calculations.
3. Recognition of Disease Symptoms.
5. Visit to NDRI Karnal.
6. Two visits to PAU Ludhiana.
8. Recognition of External and Internal Parasites.

Text Books:

5. Handbook of Animal Husbandry Published by ICAR New Delhi.
6. Thronton’s Meat Hygiene by Thronton.
SEMESTER–V

RSL–301: RUSSIAN

PAPER–I (Written) (APPLIED GRAMMAR)

Time: 3 Hrs.  Max. Marks: 80

1. Grammar from the textbook  Marks: 30
2. Composition (one out of four topics)  Marks: 10

- Revision of all cases in singular & plural (nouns, adjectives & pronouns)
- Aspects of verbs.
- Verbs of motion with & without prefixes.
- The relative pronoun “который”, its declension & usage.
- Participles & participle constructions.
- Short form of the past participle.
- Active & passive voice.
- Direct & indirect speech.
- Gerund.

Composition Topics: моя семья, немного о себе, выходной день, каникулы, любимый писатель, почему я изучаю русский язык, мой преподаватель. (One out of given three)  Marks: 10

1. From Russian into English/Hindi/Punjabi from the covered literary works. (200 words)  Marks: 15
2. From English into Russian from the prescribed Text-book. (150-200 words)  Marks: 15

Note: Glossary of difficult words may be given for translation purpose in the question paper.
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20)
(Faculty of Languages)

SEMESTER–V

RSL–301: RUSSIAN

PAPER–II (ORAL)  Max. Marks: 20

Dictation  Marks: 05
Simple Conversation  Marks: 05
Retelling of a text  Marks: 05
Reading of a text  Marks: 05

Prescribed Text-Book:
“RUSSIAN” – by Wagner V.N. & Ovsienko Y.G. (Lessons 41 to 52)

Recommended Books:
1. Langenscheidt Pocket Russian Dictionary.
2. Russian for Indians by Hem Chandra Pande.
3. “RUSSIAN” – by Ovsienko Y.G. & Skopina (Part-I & II)
SEMESTER–V

FRL–301: FRENCH

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

Time: 3 Hrs. Max. Marks: 80

A. Composition
i) A composition of around 200 words from the given topics. (One out of four) Marks: 10

B. Grammar
i). Questions on applied grammar. (Exercises from the textbook) Marks: 20

C. Comprehension
i) An unseen comprehension passage Marks: 10

COMPOSITION TOPICS:
- La vie en ville /au village, La France, Mon pays, La cuisine, Un pique nique au bord de la mer, Mon acteur/actrice/ ecrivan favori, Mes reves, Un voyage, La vie au xxii siècle, L’influence de la télévision/radio/presse écrite sur les jeune, Le mariage – est-ce que c’est une institution, essentielle?, L’amour ou l’argent, Si J’etiais……., je….., Les souveniers de mon enfance, Les vacances en Inde.

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 of general comprehension pertaining to the vocabulary covered in the text book (e.g. Comment aimez-vous passer les vacances?)  
   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–V

FRL–301: FRENCH

PAPER–II: (ORAL)  
Max. Marks: 20

- Reading of a text  
  Marks: 05
- Dictation  
  Marks: 05
- Conversation  
  Marks: 05
- Oral Comprehension  
  Marks: 05

Prescribed Textbook:
“CONNEXIONS-III” (Units 1-6) by Regine Merieux & Yves Loiseau, Published by Didier

Recommended Book:
Nouveau Sans Frontières III by Philippe Dominique & Jacky Girardet
URL–301:  (MODERN URDU PROSE AND POETRY)

Time: 3 Hours  Max. Marks: 100

PROSE:

Study of Urdu Prose with special reference to modern fiction:

General information which leads to vital changes in literary attitudes and different forms of prose which came up in Urdu in Munshi Prem Chand and Post Prem Chand period; Introductory information about latest forms of prose: Afsana, Novel, Inshaiya, Khutoot-nigari, Reportaz

Question on modern trends of prose writing like Tajreed Afsana, Inshaiya Nigari, Social Satire.
SEMESTER–V

URDU

Poetry

Study of Urdu poetry with special reference to the modern period

General information about the Modern period; the circumstances which lead to the vital changes in literary attitudes & different shades of Urdu poetry which came up in Urdu after Mirza Daagh Dehlvi; Questions on trends like Quami Shairi, Taraqqi Pasand Shairi & Jadeed Shairi

Introductory information about latest forms of poetry Ghazal, Aazad Ghazal, Paaband Nazm and Doha.

Books Prescribed:

Shaoor-e-Adab, published by Maktaba Jamia Ltd, New Delhi
SEMESTER–V

PERSIAN

PRL–301: PROSE AND POETRY

Time: 3 Hours Max. Marks: 100

PROSE:

Selections from Intkhab Adabiyat-e-Farsi by Syed Hasan, Arun Kumar Beni Madho, 2, Katra Road, Allabhabad – 211002

1. Akhlaq-e-Mohsini : Adab, Ulve Himmat, Sakhavat-o-Ahsan (Pages from 34 to 41)

2. Tarikh-e-Firoz Shahi (Pages from 17 to 23)

Selections from Nisab-e-Jadid-e-Farsi, Published by Jyed Press, Balli Maran, Delhi

1. Zindagi-e-Man (Bab Kodaki (Pages from 5 to 19)

2. Sarzameen-e-Hind Zaban-e-Farsi Dar Hind (Pages from 33 to 48)

POETRY:

Selections from Intkhab Adabiyat-e-Farsi: Published by Jyed Press, Balli Maran, Delhi.

1. Rubaiyat-e-Sarmad (Pages from 144 to 146)

2. Sho’orai Asar-e- Hazir
A. Ai Ranj bar by Khanum Parveen Aitsami (Page-164)

B. Jamhuri by Arif Qazwini (Page-169)

C. Libas-e-Watni by Sarmad Tehrani (Page-170)

D. Parda-e-Beenash by Rasheed Yasmee (Page-175)

Books Prescribed:

1. Intkhab Adabiyat-e-Farsi by Syed Hasan and published by Ram Narain Lal Arun Kumar, 2-Katra Road, Allahabad-211002

SEMESTER–V

SANSKRIT (ELECTIVE)

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### SEMESTER–V

**SANSKRIT (ELECTIVE)**

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<td>( \text{d क ि न ि द ि ि क} ) ( \frac{1}{3} )</td>
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<td>( \text{d क ि य ि न क ि द क ि य} ) ( \frac{1}{3} )</td>
<td>16</td>
<td>( \text{d क ि न क ि द क ि य} ) ( \frac{1}{3} )</td>
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<td>17</td>
<td>( \text{f क ि न ि म ि न ि प ि ब ि ड ि क} ) ( \frac{1}{3} )</td>
<td>18</td>
<td>( \text{e क ि ि य ि क} ) ( \frac{1}{3} )</td>
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| 19 |  \( \text{u क ि ज ि ि ज ि क ि भ ि ज ि ज ि ढ ि य} \) \( \frac{1}{3} \)  | 20 |  \( \text{j ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि ज ि ल ि
B.A./B.Sc. (Semester System) (12+3 System of Education) (Semester–V) (Session 2019-20)
(Faculty of Languages)

SEMESTER–V
SANSKRIT (ELECTIVE)

\[ i\bar{z}u\bar{i} = f\text{ue} k\bar{k} f\text{u}n\bar{z}k \& \]

I \[ i\bar{p}r= y \bar{Q} \bar{k} w \bar{k} e a l s n l i | n d j i k p \ d k l i \bar{z} a l j y \bar{n}k z f d ; \ k t k, \ & \]

\[ 5 \times 7 = 35 \]

II \[ p k j i \bar{z} u \ n d j n k s i z u k a d s m \bar{y} k j i n s t k, a \& \]

\[ 2 \times 7 \frac{1}{2} = 15 \]

III \[ n l \ f o l x z l f u k e a l s i k p \ d s l f u k @ l f u k f o P n s i n s t k, a \& \]

\[ 2 	imes 5 = 10 \]

IV \[ n l \ f . k t U r , o a l U r i \& ; n d j i k p \ d s : i i n s t k, a \& \]

\[ 2 \times 5 = 10 \]

V \[ o \& n d l \ k g R; e a l s n k s i z u n d j, d d k l k e \bar{u} ; i f j p ; i n k t k, \ & \]

\[ 1 \times 10 = 10 \]

VI \[ l k e \bar{u} \ K u e a l s p k j f c U n q n d j n k s d k s L i ^{V} d j u s d k s d g k t k, s \& \]

\[ 2 \times 5 = 10 \]

VII \[ Q k o g k j d ' k n k o y h e a l s 2 0 f g U n h @ v a t h ' k n n d j 1 0 d k s l a d r e a f y \ k u s d k s d g k t k, s \& \]

\[ 10 \times 1 = 10 \]
SEMESTER–V
FUNCTIONAL SANSKRIT (VOCATIONAL)

Time: 3 Hours
Max. Marks: 100

\[\text{\textit{u k\& i t\i = f g u n h e a g k k A}}\]

\[\text{\textit{i t\i i = f u e k k f u n g k}}\]

- भाग क में 5 प्रश्न देकर 3 का उत्तर देने के लिए कहा जायें।
- भाग ख में 7 प्रश्न देकर 4 का उत्तर देने के लिए कहा जायें।

\[3 \times 20 = 60\]
\[4 \times 10 = 40\]

\[\text{\textit{i k}\& \& e &} \]

- • e k k a k o S k V r F k k e k g k R k e A
e k k a e a f o f g r d e A
- p S e k %
o S m k k e k %
T; S B e k %
v k k k c e k %
J k o. k e k %
H o m z n e k %
v k o u e k %
d k r A e k %
e k Z k t Z e k %
i k S k e k %
e k k k e k %
Q k y x q e k %
SEMESTER–V
ENGLISH COMPULSORY

Time: 3 Hours                      Max. Marks: 50

Texts Prescribed:
1. *All My Sons* by Arthur Miller

Course Contents:
1. The study of the whole text of the play, *All My Sons*
2. The study of the following poems from the prescribed book.

*Poems of Nature and Culture*

<table>
<thead>
<tr>
<th>Author</th>
<th>Poem</th>
</tr>
</thead>
<tbody>
<tr>
<td>William Wordsworth</td>
<td>“The World is Too Much with Us”</td>
</tr>
<tr>
<td>Gordon Lord Byron</td>
<td>“She Walks in Beauty”</td>
</tr>
<tr>
<td>P.B. Shelly</td>
<td>“Ozymandias”</td>
</tr>
<tr>
<td>Alfred Lord Tennyson</td>
<td>“In Memoriam”</td>
</tr>
<tr>
<td>Robert Browning</td>
<td>“Meeting at Night”</td>
</tr>
<tr>
<td>Mathew Arnold</td>
<td>“Dover Beach”</td>
</tr>
<tr>
<td>W.B. Yeats</td>
<td>“Words”</td>
</tr>
<tr>
<td>Wilfred Owen</td>
<td>“Strange Meeting”</td>
</tr>
<tr>
<td>Robert Graves</td>
<td>“The Portrait”</td>
</tr>
<tr>
<td>W.H. Auden</td>
<td>“The Unknown Citizen”</td>
</tr>
<tr>
<td>Dylan Thomas</td>
<td>“Do not Go Gentle into That Good Night”</td>
</tr>
<tr>
<td>Ted Hughes</td>
<td>“The Thought-Fox”</td>
</tr>
<tr>
<td>Sylvia Plath</td>
<td>“Mirror”</td>
</tr>
<tr>
<td>Seamus Heaney</td>
<td>“Honeymoon Flight”</td>
</tr>
<tr>
<td>Rabindranath Tagore</td>
<td>“False Religion”</td>
</tr>
<tr>
<td>Nissim Ezekiel</td>
<td>“Night of Scorpion”</td>
</tr>
</tbody>
</table>

3. Formal letter and application writing, Resume Writing, Business Writing and Report writing

Instructions for the Paper Setter and Distribution of Marks:

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

Section–A:

I. Six questions (three questions from the play *All My Sons* and three questions from *Poems of Nature and Culture*) requiring very short answers based on the reading of *All My Sons* and the prescribed poems shall be set. The examinees will be expected to answer any FIVE.

\[(2 \times 5 = 10 \text{ Marks})\]

Section–B:

II. THREE questions requiring brief descriptive answers based on character, tone, plot and theme(s) in the play *All My Sons* will be set and examinees will be expected to attempt any TWO.

\[(6 \times 2 = 12 \text{ Marks})\]

III. THREE questions on the central idea, theme, tone or style etc. of the prescribed poems from the textbook, *Poems of Nature and Culture* will be set for the students to attempt any TWO of these questions.

\[(6 \times 2 = 12 \text{ Marks})\]

Section–C:

IV. ONE question requiring students to explain a stanza, with reference to context, will be set. The stanza for explanation will be taken from the poems prescribed in the syllabus. ONE essay-type question from the play *All My Sons* will be set.

The students will be required to answer any of these two questions.

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

V. TWO questions with internal choice will be set on (a) formal letter/application writing (5 Marks) and (b) Resume Writing/Business Writing and Report Writing (3 Marks)

\[(5 + 3 = 8 \text{ Marks})\]
Time: 3 Hours

Max. Marks: 100

Texts Prescribed:

1. *Merchant of Venice* by William Shakespeare
2. *Arms and the Man* by G.B. Shaw
3. *Background to the Study of English Literature* by B. Prasad, Macmillan India Limited
   (Chapters I and II from Section-I; Chapters I, II and III from Section-II; Chapters I, II and III 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 *Merchant of Venice*
2. Three very short-answer questions (approximately 5 lines each) from *Arms and the Man*
3. Four very short-answer questions (approximately 5 lines each) from *Background to the Study of English Literature* by B. Prasad. (Chapters I and II from Section-I; Chapters I, II and III from Section-II; Chapters I, II and III from Section-III) The questions shall deal with simple definitions and examples of literary terms introduced in the book. (10 x 2=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 play, *Merchant of Venice*. 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 play, *Arms and the Man*. 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 I and II from Section-I; Chapters I, II and III from Section-II; Chapters I, II and III 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 *Merchant of Venice*

2. One essay type question (3 to 4 pages) from *Arms and the Man*

3. One essay type question (3 to 4 pages) on the structure/development of a genre as discussed in the book, *Background to the Study of English Literature*. (Chapters I and II from Section-I; Chapters I, II and III from Section-II; Chapters I, II and III from Section-III) (2x16=32 Marks)
SEMESTER V

FUNCTIONAL ENGLISH (VOCATIONAL)

PAPER - PRINT JOURNALISM
(THEORY)

Time: 3 Hours

Max. Marks: 100
Theory Marks: 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: It will require students to write EIGHT (8) short notes of 2 marks each. The question will test student's awareness about various aspects of journalistic terms.

(2x8=16 Marks)

Section-B: It will have SEVEN (7) questions out of which students will attempt any FIVE (5). The questions will relate to specific issues given in Unit-I to VII. There will be at least three questions of practical nature. Each question will carry 7 marks.

(7x5=35 Marks)

Section-C: It will have TWO questions with internal choice, each of 12 marks. The questions will require students to demonstrate practical knowledge in writing various features for the print media.

(2x12=24 Marks)

Objectives:
To generate awareness among learners of issues deserving reporting in print and to simulate them to respond to their environment in print. To enable learners to write news stories from the stage of news gathering to editing to their final presentation. To enable learners to acquire the art and skills of feature writing.

Course Contents:

UNIT-I: Introduction to Print Media
- Print Media and Communication
- Definition of Communication
- Scope of Communication: Its purpose and forms

UNIT-II: Reporting
- Sources of Information
- Distinguishing Factual News Reporting from Interpretative and Analytical Reporting
UNIT–III: Investigate Journalism
- Writing the Questions
- Reporting from Interviews - Format, Style and Content

UNIT–IV: Writing News Stories
- Essentials of News Writing–the Headlines–the Leads–the Body and Conclusion–the Art and Skills of Writing for Different Purposes.

UNIT–V: Areas in News Reporting

UNIT–VI: The Reader
- Understanding the Reader

UNIT–VII: Feature Writing
- Defining a Feature (a lyric in Prose)–the Crafts of Feature Writing–Distinguishing a Feature from other Forms of Newspaper/Magazine, Writing–Researching before Writing–Titles and Leads–Packaging a Feature with interest, Humour, Pictures and other Ingredients–Areas for Feature Writing (middles, reviews)–Freelancing and Feature Writing.
There will be practical examination of 25 marks. An external examiner will conduct the examination by giving on the spot news/report writing test.

**Bibliography:**

- Nicholis, Brian *Features with Flair*, Press Institute of India, New Delhi, 1972.
- Patterson, Helen M. *Writing and Selling Feature, Articles*, Prentice Hall, New York, 1950.
- Scher
SEMESTER–V

PUNJABI (COMPULSORY)

भोजनी (लघुभाषी)

भाषा : 3 छात्री
बुध भाषा : 50
पाठ-चूह भाषा पाठ-पाठवाना

1. भोजनी पनानी कंपोल्सरी
(मंग. डा. विद्वतंत्र बेल, पत्रकारिकर विषुव, बंजुरा मलब एंट युक्तिविधित, अभिज्ञात, 2018)

केब्रेक
बाज़ी
क्यों?
हारम देश
क्यों?

2. तारख : देहूँ जम्मा दीड़ता (स्पष्ट बेल दिलारा)

3. स्वावलम्ब 200 मलबन दिलेप बेल उत्पत्ति

4. मलब भागाही ले रे पनानी हिंद अनुभव

5. हिंदावस्था:

(ई) पनानी युगल हिंदुदा
(अ) राजवाहिन सागुड़ : मेल दे अभिवंत
(ए) वारन दे वारनी मंथप

अंक-बंक अर्थ पतीधारिय लघु उपस्थिति

1. हिंद-अंक एवं एवं बावल दे वारन-वारन बावल हिंदुदा (दे हिंदु हिंद) 10 अंक
2. वार-वारम-बाद-बाद बावल हिंदुदा (दे हिंदु हिंद) 10 अंक
3. पेड़ा : दिलेप हिंदु दिलेप हिंदु दिलेप पेड़ा 05 अंक
4. मलब बीतारी लेड़े का लघुभाषी हिंदु अत्तर्व 05 अंक
5. देहा 5 दिलेप हिंदावस्था हिंदावस्था हिंदावस्था हिंदावस्था हिंदावस्था 10 अंक
6. दिलेपावस्था लघु टिकट 1 अर्थ 2 लघु बावल हिंदु दिलेप हिंदु दिलेप दिलेप दिलेप 5 बावल हिंदु दिलेप 50 मलबन दे देहा दे देहा 5X2=10 अंक
SEMESTER – V

PUNJABI (ELECTIVE)

भौस्थी (एक्सेलेंट)

भौस्थी चाली मंजूरी (1700 छी. डेंज़)
(छोटे ड. दारुणलाल वरेल संगीत ए डा. भरत सिंह चट्टौड़ा),
भौस्थी पुस्तक प्रकाशन, 2007
(हेलियल पड़ो से भरिये पृष्ठ पृष्ठ मध्य/मध्य/मध्य/पृष्ठ/कमीशन)
40 भाग

2. अनुभव भौस्थी चालुक
(एक्सेलेंट ची लाम, तालवाम मध्य पृष्ठपत्री)
(प्रदीप्ते चाम दिशा)
30 भाग

3. भौस्थी रामक:
झेल दे इतरे (पासी ब्रिकेट)
30 भाग

पूर्णित भाग वीम

1. भौस्थी चाली मंजूरी (1700 छी. डेंज़)
(छ) पृष्ठेना मैठड विश्वास (छतर दिच्च दे)
(अ) भव दिच्चे विषय वा दिच्चे दामढ़ / वर्दी वाली भागी वर्दी दा नेंगारत (छे दिच्चे दिच्च)
20 भाग
(छ) भक्तिपूर्व देव भूसल (मैठड दिच्चे पृष्ठ)
5x2=10 भाग

2. भव दिच्चे विषय मात, विषय दमढ़/ वर्दीवान ब्लाट (छे दिच्चे दिच्च)
20 भाग

3. भौस्थी रामक : झेल दे इतरे (पासी ब्रिकेट)
झेल दे दिच्चे दमढ़/वसरलव/वसरलव/वसरलव (छे दिच्चे दिच्च)
20 भाग

4. एतिहासी ची लाम अधी झेल दे इतरे दिच्चे पाठ अनुपालन
विश्वेद झेल काले भूसल (छे दिच्चे छतर)
4x5=20 भाग
SEMESTER–V

FUNCTIONAL PUNJABI

ਫੁੱਨਸ਼ਨਲ ਪੰਜਾਬੀ

ਪ੍ਰਸ਼ਨਾ ਪ੍ਰਾਪਤ ਹਿੰਦੂ ਮੁੱਖ ਉਤਿਲਕੇਨੀ ਰਸਤਾ ਸਤਤ ਪਹਾੜ ਅਦੇ ਪ੍ਰਸ਼ਨਾ ਹਿੰਦੂ ਦਿੱਲੀ ਹਨ ਦੇਖੋ ।

ਪ੍ਰਸ਼ਨਾ ਪ੍ਰਾਪਤ ਹਿੰਦੂ ਮੁੱਖ ਉਤਿਲਕੇਨੀ

ਬਲਾ ਅਧੀ : 100

(ਚੀਨਟੀ)

ਸਮਾਨ : 2 ਪੇਟੀ

ਆਬ : 50

(ਓ) ਪ੍ਰਸ਼ਨਾ ਪ੍ਰਾਪਤ ਹਿੰਦੂ ਮੁੱਖ ਉਤਿਲਕੇਨੀ : ਪ੍ਰਸ਼ਨਾ ਪ੍ਰਾਪਤ ਹਿੰਦੂ ਮੁੱਖ ਉਤਿਲਕੇਨੀ ਦਾ ਸੰਖੇਪ (ਅਠਾਂਪੀਪੀੜੀ. ਦੀ ਅਧਾਰ ਤਾਲਨ)

ਆਬ : 20

(ਆ) ਮੁੱਖ ਉਤਿਲਕੇਨੀ : ਪ੍ਰਸ਼ਨਾ ਪ੍ਰਾਪਤ ਹਿੰਦੂ ਮੁੱਖ ਉਤਿਲਕੇਨੀ, ਮਾਤੀਵਾਡ ਦੇ ਮੁੱਖ ਉਤਿਲਕੇਨੀ ।

ਆਬ : 15

(ਧ) ਸੈਦ਼ੀਦਿਉਲਾਤ ਮੋਦਿਤਮੇਥਾ : ਸੈਦ਼ੀਦਿਉਲਾਤ ਮੋਦਿਤਮੇਥਾ - ਮੋਦਰੀ.ਮੋਦ.ਮੋਦਿਮ (4.3.6.0.7.0)

ਪ੍ਰਾਪਤ ਅਧੀ ।

ਆਬ : 15
SEMESTER–V

FUNCTIONAL PUNJABI

पंजाबी पूर्ववर्ती (ड़ेडमशर्ल)

(पूर्ववर्ती)

इतिहास पूर्ववर्ती लिख अधिभाष बनना

मात्रां : 2 पटे

अंक : 50

(१) पंजाबी विज्ञान मठ वे वानस्पतिक अंतर्गत मठ अंदर उभरती पुरूषी लिखी लिखित लिखका (पैं-पैं टिटल जैसी अधिभाष)

(२) हिंदीविज्ञान मठ द्वारा आयाम 'उ' साल मठ में सीतराम द्वारा उपन्यासी लिखित लिखका अंदर उप निकस्ते (पैं-पैं टिटल जैसी अधिभाष)

(३) विद्वती लिख लिख द्वारे विद्वती विद्वती जैसे भर्त-भर्त 35 दर्जा रक्षक उपमान टेस्ट जैसे अधिभाष (मुख्य अधिभाष)
SEMINAR – V

भूर्णी भंजरी
(भंजरी वा लिटिएशन के मंचिकाचार)
(In Lieu of Punjabi Compulsory)

Time: 3 Hrs. Marks: 50

अंदूं दी देंडः –

बाण दः – हिम ब्रज हिंदू 15 पृष्ठ पढ़े तथा हिमीभाषी देने तिमे 10 दे टिउन 30-40 समस्त में हिंदू सिंदू नहँ। उदेश पृष्ठ दे 2 अंदृ देंडः।

बाण ऋः – हिम ब्रज हिंदू 6 पृष्ठ पढ़े तथा हिमीभाषी देने तिमे 3 पृष्ठ दे टिउन 400-500 समस्त में हिंदू सिंदू नहँ। उदेश पृष्ठ दे 10 अंदृ देंडः।

1. मिश्र भंज हिंदू प्रस्मारकः – गुडु उल्लोकित मार्ग देने गुडु देगा बर्गन नारिंग उंड़ (1606-1675) भोज-भोज, हिम दीघों हिमीभाषा दे दृष्टि, गुडु देगा बर्गन नारिंग दी पृष्ठ नहँ रहे मेरालर, गुडु देगा बर्गन नारिंग दी पृष्ठ 

2. गुडु गोविंद मिश्र दे धर्म भंज हिंदू प्रस्मारकः – गुडु गोविंद मिश्र नी (1675-1708), अन्वेषित नीहर, धर्म भंज ही महापत (1699), गुडु गोविंद मिश्र नी ही महासीह

3. भंजरी दे समानिय दे मंचिकाचार नीहरः – गे मे अवे लिटिएशन, लेख लेखा, लेख रचना, भंजरी दे पृष्टिय तेज दिमे: पृष्टिय ब्रज, तीत तंद्रा, मेंटी भंजरी
बृहस्पति पुत्रजयः—
1. ‘पाण्डव दा खेल दिवाम’, चक्रवर्ती निन्दित चिंत, धर्मविनायक विरुद्ध विपणी हृदिलोकमिति पतिभाषा।
2. ‘पाण्डव दा दिवाम’, धितिप्रथा मित्र व्युत्त, तिहि तृण विभसि सलिपत।
3. ‘पाण्डव’ (प्रितिवान; चला सावित्र दे मरियाम्यान भार्य) मथं मथमयं मनुष्य मित्र वङ्कन, द्रमा दिवामा धनान्य पतिभाषा।
4. ‘सिद्धान्ती सिंह दिवाम’ 1469-1708 द्रा. सूक्ष्मकोश सिंह, संजाव धर्मविनायक, मभास।
5. ‘संघं तीतर दम गुड़ मरियाम्यान’, विभाषी नवायान मित्र चले मेंडवाली, भानप तृण त्रिकृत, गळळ वास्त, अथवृद्धार्थ।
6. ‘सिंह दिवाम’ (1469-1765), धितिप्रथा उन्नत सिंह, द्रा. गुंडा सिंह, धर्मविनायक विरुद्ध विपणी पुलिलोकमिति पतिभाषा।
7. ‘सिंह दिवाम’ धाम पवित्रा, प्रस्तववत सिंह मालविनायक द्रा. मुनिकलं मित्र भेलभ, सचेत तृण मध लूपिभाषा।
8. ‘पाण्डव दा दिवाम’ (पाण्डव दे मरियाम्यान दा दिवाम) धितिप्रथा मित्र व्युत्त, तिहि तृण विभसि सलिपत।
9. ‘सिंह विमली’ 1469-1988 प्रस्तववत सिंह, नहिम्न पवित्रमयसन नौ रिहाई।
10. ‘माह दिवाममसन पवित्रा’ (1469-1708) पाण्डव दा दिवाम: सिकवीत सिंह, तिहि तृण विभसि सलिपत।
11. ‘पाण्डव दा दिवाम’ (1469-1799) मित्र नावाली, भरत धर्मविनायक पतिभाषा।
HINDI (ELECTIVE)

1. **क र दण ड स्वर उपयोग व दो दोहरी परिभाषा का उल्लेख, तत्त्व, प्रत्यक्षाधिकारी**
2. **नाम और नुस्का**
3. **कामकाजी हिंदी के प्रमुख कार्य: प्रारूपण, संक्षेपण, टिप्पणियाँ**
4. **योग्य नामकरण, परिभाषायें, विश्लेषणात्मक निर्देश तथा कामकाजसी के केन्द्र संचालित परिचय**

1. **प्रथम खंड में छः पद्मनाथ शब्दावली तथा संस्कृत समारोह से प्रश्न होंगे।**
2. **दूसरे खंड में चार प्रश्न प्रस्तावित स्थानों के होगा जिनमें से दो दो हिंदी अनिवार्य हैं और दो प्रश्न पीढ़ीतक निर्दिष्ट पुस्तक, दो क्रिया तथा तनाव, दो छत्र और दो कामकाजी हिंदी से होंगे। प्रत्येक में से एक—एक प्रश्न का उल्लेख अनिवार्य है। कुल आठ प्रश्न अनिवार्य हैं।**
3. **तीसरे खंड में दो प्रश्न पीढ़ीतक से और दो प्रश्न रीतिकाल से पूछे जाएंगे। जिनमें से एक—एक प्रश्न का उल्लेख अनिवार्य होगा।**
<table>
<thead>
<tr>
<th>No.</th>
<th>Position</th>
<th>English Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Auditor</td>
<td>लेखा परीक्षक</td>
</tr>
<tr>
<td>2.</td>
<td>Acting Principal</td>
<td>कार्यालय प्रारंभ</td>
</tr>
<tr>
<td>3.</td>
<td>Administrator</td>
<td>प्रशासक</td>
</tr>
<tr>
<td>4.</td>
<td>Associate Professor</td>
<td>राज्य प्रारंभ</td>
</tr>
<tr>
<td>5.</td>
<td>Air Hostess</td>
<td>विमान परिचारिका</td>
</tr>
<tr>
<td>6.</td>
<td>Attendant</td>
<td>परिचार</td>
</tr>
<tr>
<td>7.</td>
<td>Administrator General</td>
<td>महासाहिब</td>
</tr>
<tr>
<td>8.</td>
<td>Attorney General</td>
<td>महान्याय आदर</td>
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<tr>
<td>9.</td>
<td>Advocate General</td>
<td>महाविद्यालय</td>
</tr>
<tr>
<td>10.</td>
<td>Auditor General</td>
<td>महाविद्यालय परीक्षक</td>
</tr>
<tr>
<td>11.</td>
<td>Assistant Commissioner of Police</td>
<td>सहायक पुलिस आदर</td>
</tr>
<tr>
<td>12.</td>
<td>Chairman</td>
<td>सचिव</td>
</tr>
<tr>
<td>13.</td>
<td>Chancellor</td>
<td>कुलधिपति</td>
</tr>
<tr>
<td>14.</td>
<td>Vice – Chancellor</td>
<td>कुलाधिपति</td>
</tr>
<tr>
<td>15.</td>
<td>Commissioner</td>
<td>आदर</td>
</tr>
<tr>
<td>16.</td>
<td>Controller</td>
<td>नियन्त्रक</td>
</tr>
<tr>
<td>17.</td>
<td>Commissioner of Police</td>
<td>पुलिस आदर</td>
</tr>
<tr>
<td>18.</td>
<td>Deputy Commissioner</td>
<td>उपपुलिस</td>
</tr>
<tr>
<td>19.</td>
<td>Director</td>
<td>निदेशक</td>
</tr>
<tr>
<td>20.</td>
<td>Education Officer</td>
<td>शिक्षा अधिकारी</td>
</tr>
<tr>
<td>21.</td>
<td>Evaluation Officer</td>
<td>मुख्याधिकारी</td>
</tr>
<tr>
<td>22.</td>
<td>Executive Engineer</td>
<td>कार्यालय अधिकारी</td>
</tr>
<tr>
<td>23.</td>
<td>Editor in Chief</td>
<td>प्रमुख समवाद</td>
</tr>
<tr>
<td>24.</td>
<td>Forest Officer</td>
<td>वन अधिकारी</td>
</tr>
<tr>
<td>25.</td>
<td>General Manager</td>
<td>महान्याय आदर</td>
</tr>
<tr>
<td>26.</td>
<td>Honorary Adviser</td>
<td>मानव संलग्नकर</td>
</tr>
<tr>
<td>27.</td>
<td>Inspector General</td>
<td>महान्याय आदर</td>
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<tr>
<td>28.</td>
<td>Secretary</td>
<td>सचिव</td>
</tr>
<tr>
<td>29.</td>
<td>Joint Secretary</td>
<td>सचिव सचिव</td>
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<tr>
<td>30.</td>
<td>Lecturer</td>
<td>प्रशासक</td>
</tr>
<tr>
<td>31.</td>
<td>Public Relation Officer</td>
<td>जन समवाद अधिकारी</td>
</tr>
<tr>
<td>32.</td>
<td>Proctor</td>
<td>कुलाधिपति</td>
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<tr>
<td>33.</td>
<td>Professor</td>
<td>आदर</td>
</tr>
<tr>
<td>34.</td>
<td>President’s Estate Officer</td>
<td>राष्ट्रीय संतोष अधिकारी</td>
</tr>
<tr>
<td>35.</td>
<td>Principal Secretary</td>
<td>मानव सचिव</td>
</tr>
<tr>
<td>36.</td>
<td>Registrar</td>
<td>कुलसचिव</td>
</tr>
<tr>
<td>37.</td>
<td>Surveyor</td>
<td>सचिव</td>
</tr>
<tr>
<td>38.</td>
<td>Superintendent</td>
<td>अधिकारी</td>
</tr>
<tr>
<td>39.</td>
<td>Supervisor</td>
<td>पारीस्थलक</td>
</tr>
<tr>
<td>40.</td>
<td>Sales – Incharge</td>
<td>सेल्स सेल्स भारी</td>
</tr>
<tr>
<td>41.</td>
<td>Senior Assistant</td>
<td>वरिष्ठ सहायक</td>
</tr>
<tr>
<td>42.</td>
<td>Senior Deputy General</td>
<td>वरिष्ठ उप महान्याय आदर</td>
</tr>
<tr>
<td>43.</td>
<td>Patent Officer</td>
<td>एकस्त्र अधिकारी</td>
</tr>
<tr>
<td>44.</td>
<td>Commissioner For Food and Supply</td>
<td>खाद्य एव अभूित आदर</td>
</tr>
<tr>
<td>45.</td>
<td>Commissioner for Department Enquiry</td>
<td>विभागीय जान आदर</td>
</tr>
<tr>
<td>46.</td>
<td>Additional Station Director</td>
<td>अद्धान्त संरक्षक</td>
</tr>
<tr>
<td>47.</td>
<td>Chief Justice</td>
<td>प्रमुख न्यायाधीश</td>
</tr>
<tr>
<td>48.</td>
<td>Pro Vice Chancellor</td>
<td>प्रतिभुक्तिवादी</td>
</tr>
<tr>
<td>49.</td>
<td>Field Assistant</td>
<td>क्षेत्रीय सहायक</td>
</tr>
<tr>
<td>50.</td>
<td>Medical Officer</td>
<td>चिकित्सा अधिकारी</td>
</tr>
</tbody>
</table>
SEMESTER–V

FUNCTIONAL HINDI (VOCATIONAL)

(Qा कुष फ़गु हः)

l ekp[kj] l ekp[kj] i = , oad gkuh v k$ mi w d h leh[k]

l e; %21 & 2 %?

k) 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।

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

ग) इस भाग में चार प्रश्न पूछे जाएंगे जिन में से 2 प्रश्नों का उत्तर देना होगा। इन प्रश्नों का उत्तर 3–4 पृष्ठों तक सीमित होगा। प्रत्येक प्रश्न के 7 अंक हैं। कुल अंक 14 हैं।

fu/kj r i kB+0 e

d $½ l ekp[kj v k$ l ekp[kj i =

- समाचार : अर्थ और परिभाषा
- समाचार : तत्व और प्रकार
- समाचार : लेखन प्रक्रिया
  - कवरेज
  - प्रेस रिपोर्ट तैयार करना
  - सम्पादन
  - भाषा शैली
  - शैक्षिक लेखन
  - सम्पादकीय लेखन
- समाचार पत्रों की पृष्ठ-संचालन/पृष्ठ-संज्ञा
- पंजाब के मुख्य समाचार पत्र : परिचय और इतिहास

[k½ i $ foKflr
  - प्रेस विज्ञापन : परिचय अध्यायण : स्वरूप और क्षेत्र
  - प्रेस विज्ञापन : भाषा शैली

x $½ i D jHfMz

?k½ d gkuh m i U \ w v k$ , d k$ h % v fkZi f j Hkk'kj r Ro v k$ i d kj

v d foHkt u

- प्रथम खंड में 'क' में से प्रश्न पूछे जाएंगे। 1\times10=10
- द्वितीय खंड में भाग 'ख', 'ग' में से प्रश्न पूछे जाएंगे। 5\times6=30
- तृतीय खंड में भाग 'घ' में से प्रश्न पूछे जाएंगे। 2\times10=20
FUNCTIONAL HINDI (VOCATIONAL)

- विद्यार्थियों को प्रति समस्त 40 अंक की प्रयोग पुरस्कार तैयार करनी होगी। जिसमें 20 अंक मौखिक
  परीक्षा के और 20 अंक प्रयोग-पुरस्कार के होंगे।

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

- समाचार लेखन : भीमरक्ष, प्रथम पुस्त, चित्रा, सम्पादकीय पृष्ठ-लेखन का अभ्यास

- प्रेस नोट तैयार करने का अभ्यास

- विद्यार्थियों को हिंदी समाचार कार्यालयों/प्रेस में लेकर जाना

- सेमीनार और समूहवार बहस
HINDI PATRAKARITA (VOCATIONAL)

समय: 3 घण्टे  पूर्णक 60

क) 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।

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

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

विशेषता पाठ्यक्रम:

क) फोटो पत्रकारिता: लेखन के सिद्धांत / विशेषताएं

ख) फोटो पत्रकारिता -
   - फोटो पत्रकारिता: आरंभ
   - फोटो पत्रकारिता: अर्थ, परिभाषा और महत्त्व
   - फोटो पत्रकारिता: विशेषताएं
   - फोटो पत्रकारिता: फोटोग्राफी के लिए आवश्यक उपकरण
   - फोटो पत्रकारिता: कैमरा उपकरण और उसके रेख-रंगक के निर्देश
   - फोटो पत्रकारिता: छायांकन कला के प्रमुख विन्दु
   - फोटो पत्रकारिता: पत्र - पत्रिकाओं के लिए चित्रों का चयन और संपादन कला
   - फोटो पत्रकारिता: चित्र-प्रेषण के प्रकार

ग) दूरदर्शन
   - दूरदर्शन: अर्थ और परिभाषा
   - दूरदर्शन: स्वरूप और महत्त्व
   - दूरदर्शन: समापति कला
   - दूरदर्शन: संवाददाता के गुण
   - दूरदर्शन: हिन्दी समाचार की विशेषताएं
   - दूरदर्शन के हिन्दी कार्यक्रमों का वर्गीकरण: बालवर्ग, युवावर्ग, वरिष्ठवर्ग

घ) दूरदर्शन समाचार बुलेटिन के स्मरणीय तथ्य

अंक-विभाजन

- प्रथम खंड में भाग ‘क’ और ‘घ’ में से प्रश्न पूछे जाएंगे। 1×10=10
- द्वितीय खंड में भाग ‘क’ और ‘ख’ तथा ‘ग’ में से प्रश्न पूछे जाएंगे। 5×6=30
- तृतीय खंड में भाग ‘ख’ तथा ‘ग’ में से प्रश्न पूछे जाएंगे। 2×10=20
SEMESTER–V

HINDI PATRAKARITA (VOCATIONAL)

हिन्दी पत्रिकारिता

प्रयोग और मौखिकी

पूर्णक : 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 - फोटोग्राफी के विभिन्न उपकरणों की जानकारी देना।
पत्र-पत्रिकाओं से विभिन्न चित्रों का चयन और संकलन करना।
कैमरे की प्रचलित किस्मों के बारे में जानकारी देना।
कैमरे के अवयव किस प्रकार कार्य करते हैं इसकी जानकारी देना।
दृष्टिकोण के हिन्दी चैनलों का विषयानुसार वर्गीकरण।
SEMMESTER–V

PHYSICAL EDUCATION

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. Recreation: Meaning and Importance of Recreation.
2. Aims and objectives of recreation.
3. Intramural and Extramural Sports Competitions and their Importance.

Part–B

1. Posture: Meaning and Types of postures.
4. Normal Load, Creast Load, Over Load.
5. Meaning and Importance of Warming up and Cooling down in sports.
SEMESTER–V

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 ---------- 800M, Triple Jump for Boy
  800M, Trippe Jump for Girls

- Games (Boys & Girls) ---------- Fundamentals, Rules, Performance
  Basketball, Judo

Books Recommended: