SYLLABI

FOR

B.A. & B.Sc. (GENERAL) SECOND YEAR
(SEMESTER SYSTEM)
EXAMINATIONS, 2018-2019
(SEMESTER : THIRD AND FOURTH)

i.e

Third Semester  :  November/December, 2018
Fourth Semester :  April/May, 2019
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ENGLISH (Compulsory)

SEMESTER – III

(FOR B.A. CANDIDATES ONLY)

Max. Marks : 50
Theory : 45 marks
Internal Assessment : 05 marks
Time : 03 Hours

Objective:

➢ To teach finer nuances of language through an integrated approach.
➢ To acquire extensive knowledge of English as a language in its various textual forms and to become thoughtful, imaginative and effective communicators in a diverse and changing society.
➢ To write an effective business document (such as notice, advertisement etc.) which enable them to think analytically.
➢ To enhance their writing skill
➢ To acquire knowledge about various literary aspects through the text which capacitates them to enrich their literary and cultural values.
➢ To empower an average student in such a way that English learning becomes a pleasurable endeavour.

TEXT PRESCRIBED:


Poetry Section:

i. Ode to Autumn
ii. The Road Not Taken
iii. Money Madness
iv. I, Too

Prose Section:

i. Mr. Know All
ii. Film Making
iii. Not Just Oranges
iv. A Tale on Advertising
TESTING SCHEME:

Section – A

Q.1. Reference to the context from Poetry. **One out of two** passages to be attempted. 5 marks

Q.2. Short answer type question from Poetry (in about 50-60 words). **Five out of eight** are to be attempted. 10 marks

Q.3. Long answer type questions from Prose (in about 100-120 words). **Two out of Four** are to be attempted. 6 marks

Section-B

Q.4. Note making (**one out of two** is to be attempted) 4 marks

(The examiner will set **two** paragraphs based on the prescribed text for note making. The students be asked to attempt any **one** of the **two**).

Q.5. Grammar:
   i. Non finite verbs 5 marks
   ii. Punctuation (A short paragraph) 5 marks
   iii. Do as directed (based on transformation of sentences) 10 marks

(The examiner will set **three** different grammar exercises for every section of Q.5 based on the prescribed text in such a way that most of the activities, students have done in the class are adequately covered.)

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ENGLISH (Compulsory)

SEMESTER – IV

(FOR B.A. CANDIDATES ONLY)

Max. Marks : 50
Theory : 45 marks
Internal Assessment : 05 marks
Time : 3 Hours

Objective:

➢ To Teach Finer nuances of language through an integrated approach.
➢ To acquire extensive knowledge of English as a language in its various textual forms and to become thoughtful, imaginative and effective communicators in a diverse and changing society.
➢ To write an effective business document (such as notice, advertisement etc.) which enable them to think analytically.
➢ To enhance their writing skill.
➢ To acquire knowledge about various literary aspects through the text which capacitates them to enrich their literary and cultural values.
➢ To empower an average student in such a way that English learning becomes a pleasurable endeavour.

TEXT PRESCRIBED:


Poetry Section:

i. Goodbye Party for Miss Pushpa T.S.

ii. I Will Embrace Only the Sun

iii. Refugee Mother and Child

iv. This is a Photograph of Me

Prose Section:

i. On Shaking Hands

ii. No Man is an Island

iii. Freedom of the Press

iv. An Except From Decolonizing the Mind
TESTING SCHEME:

Section – A
Q.1. Reference to the context from Poetry. One out of two passages to be attempted. 5 marks

Q.2. Short answer type question from Poetry (in about 50-60 words). Five out of eight are to be attempted. 10 marks

Q.3. Long answer type questions from Prose (in about 100-120 words). Two out of Four are to be attempted. 6 marks

Section – B
Q.4. Paragraph writing (based on post-reading activities suggested in the prescribed texts)
   One out of three is to attempted. 5 marks
   (The examiner will set three topics for paragraphs writing from the post reading activities suggested in the prescribed texts. While selecting this question, special care must be taken to borrow ideas from the text or suitably modify them so as to identify viable topics that the students of B.A.(compulsory)can easily handle.)

Q.5. Report writing (with internal choice) 4 marks
   (The examiner will give information about some social issue, an event/incident, some topic of current affairs etc. and will ask the students to write a report in about 100 words on the given topic. The information can also be given in form of a dialogue on some issue of general interest. The examiner will set this question with an internal choice).

Q.6. Grammar:
   i. Using nouns as verbs or vice-versa 5 marks
   ii. Combining pairs of sentences using words given in the brackets 5 marks
   iii. Text-based Idioms and Phrases 5 marks
   (The examiner will set four different grammar exercises for every section of Q.5 based on the prescribed text in such a way that most of the activities students have done in the class are adequately covered.)
ENGLISH (Compulsory)
(FOR B.Sc. CANDIDATES ONLY)

SEMESTER-III

Note:

(i) There will be one paper of 40 marks, 5 marks are reserved for the Internal Assessment and 5 for the Practical Work. Total is 50.

(ii) The paper shall consist of Two Units. Unit I will be text specific and Unit II shall deal with different aspects of Communication and Language skills.

(iii) For Unit I, the prescribed text is Varieties of Expression, Ed. A. H. Tak, Foundation Books. Only four prose chapters and two dramas have been recommended for the study. The relevant sections, however, are as follows:

**Unit I**

**Prose** : Chapters 1-4
**Drama** : Dramas 1-2

**Unit II**

**Note (iv)** No text book is recommended for Unit II, but a few books that may be used for this Unit are listed towards the end. Unit II shall consist of the following:

*Business Communication:* It shall focus on different aspects of communication in general and business communication in particular, communication within organizations, types of communication and significance of positive attitude in improving communication.

*Writing Skills:* This section shall focus on letters of all kinds, tender notices, auction notices, public notices; and memos.

**Practical work:**

Teacher should assign some project or practical work to the students. This should be in the nature of guided activity, which the students shall have to complete under the direct supervision of the teacher. The students may be given projects on a variety of subjects relating to their discipline i.e. business, commerce, accounts etc. Preferably, they should be given minor projects (to be completed within less than two weeks, and length not exceeding 20 pages) in consultation with teachers of commerce. However, the evaluation of the projects should be done only by the Language Teachers, who must keep all the basic criteria of good writing in mind while doing so.

(Note: In case of private candidates and students of University School of Open Learning, the marks obtained by them out of 40 will be proportionately increased out of 50).
Testing Scheme:

The examination paper shall be divided into two sections, corresponding to two units already proposed in the syllabus. The distribution of questions and marks in Unit I shall be as follows:

**Section I** (It is text-based and corresponds to Unit I in the syllabus)

Q.1. It shall consist of six short questions. Three from Prose and three from drama (not exceeding 50-60 words) out of which a student will be expected to attempt any two from Prose and two from Drama. This question shall be based upon the prescribed text *Varieties of Expression* and cover a wide range of issues, topics and problems.  

10 marks

Q.2. It shall consist of four long questions – Two from Prose and two from Drama (not exceeding 100-150 words) out of which a student will be expected to attempt two- one from Prose and one from Drama.  

5 marks

**Note:** The question 1 & 2 should be so designed as to cover all the chapters prescribed (Prose & Drama)

Q.3. It shall exclusively be a test of vocabulary, but designed strictly on the lines of various exercises given at the end of each chapter in the prescribed text. The candidate shall be given five words in one column and asked to match them with words/meanings in the next column.  

5 marks

**Unit II**

Q.4. This question shall test a student’s ability to write letter of various kinds (not more than 200 words). Again, there will be internal choice here.  

5 marks


10 marks

Q.6. One short question to test the students’ understanding of various aspects of Business Communication.  

5 marks

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ENGLISH (Compulsory)
(FOR B.Sc. CANDIDATES ONLY)

SEMESTER-IV

Note:

(i) There will be one paper of 40 marks, 5 marks are reserved for the Internal Assessment and 5 for the Practical Work. Total is 50.

(ii) The paper shall consist of Two Units. Unit I will be text specific and Unit II shall deal with different aspects of Communications and Language skills.

(iii) For Unit I, the prescribed text is Varieties of Expression, Ed. A. H. Tak, Foundation Books. Only four prose chapters and two dramas have been recommended for the study. The relevant sections, however, are as follows:

Unit I

Prose : Chapters 5-8
Drama : Dramas 3-4

Unit II

Note (iv) No text book is recommended for Unit II, but a few books that may be used for this Unit are listed towards the end. Unit II shall consist of the following:

Writing Skills: This section shall focus on précis-writing, curriculum vitae, short, formal reports (not exceeding 200 words) and advertisements relating to product promotion etc.

Modern Forms of Communication: Here special emphasis shall be given to teaching the format of E-mails, Fax Messages, Audio-Visual Aids and Power-Point Presentations. Apart from this, the students shall also be given basic lessons in Effective Listening, Non-Verbal Communication. How to Prepare for an Interview & Group Discussion etc.

Practical Work:

Teacher should assign some project or practical work to the students. This should be in the nature of guided activity, which the students shall have to complete under the direct supervision of the teacher. The students may be given projects on a variety of subjects relating to their discipline i.e. business, commerce, accounts etc. Preferably, they should be given minor projects (to be completed within less than two weeks, and length not exceeding 20 pages) in consultation with teachers of commerce. However, the evaluation of the projects should be done only by the Language Teachers, who must keep all the basic criteria of good writing in mind while doing so.

(Note: In case of private candidates and students of University School of Open Learning, the marks obtained by them out of 40 will be proportionately increased out of 50).
Testing Scheme:

The examination paper shall be divided into two sections, corresponding to two units already proposed in the syllabus. The distribution of questions and marks in Section I shall be as follows:

**Unit I** (It is text-based and corresponds to Unit I in the syllabus)

Q.1. It shall consist of six short questions. Three from Prose and three from drama (not exceeding 50-60 words) out of which a student will be expected to attempt any four, Two from Prose and two from Drama. This question shall be based upon the prescribed text *Varieties of Expression* and cover a wide range of issues, topics and problems.  
10 marks

Q.2. It shall consist of four long questions – Two from Prose and two from Drama (not exceeding 100-150 words) out of which a student will be expected to attempt two - one from Prose and one from Drama.  
5 marks

**Note:** The question 1 & 2 should be so designed as to cover all the chapters prescribed (Prose & Drama)

Q.3. It shall exclusively be a test of vocabulary, but designed strictly on the lines of various exercises given at the end of each chapter in the prescribed text. The candidate shall be given five words in one column and asked to match them with words/meanings in the next column.  
5 marks

**Unit II**

5 marks

Q.5. Precis of 200 words.  
10 marks

Q.6. Definition/Format of modern forms of communication to be tested.  
(e-mail, fax, videoconferencing)  
5 marks

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पंजीकरण (लघुसमी)
( मित्र श्री. रे दिविद्यालयविशाल सही)

मामलों तीन

पाठ्वृत्त

1. पंजीकरण मक्खन राजी भीम सा अध्यापक 20 अंक
2. हिंदी पेड़ा 8 अंक
3. पंजीकरण धारा 7 अंक
4. हिंदीत्व :समाप्ति के दिवस 10 अंक

वेकर

1. पन-आध, (मदा) प. इंटरनेट सिंगर पत्रिका, धारीचक्षर निवड़, पंजीकरण पुस्तिकालमिटी, चंद्रवालू।

पुष्टिवार बीच

1. (४) 'पन-आध' पुस्तक विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी 4+6=10 अंक
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2. (५) 'पन-आध' पुस्तक विद्यार्थी संघ संघ संघ संघ संघ संघ संघ संघ संघ 1 x 5= 5 अंक
(आठ विद्यार्थी पन पुस्तक विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी)
3. हिंदी पेड़ा (इंटरव्यू, रचना, समाचार) में मक्खिमत्व मक्खिमत्व मक्खिमत्व मक्खिमत्व मक्खिमत्व मक्खिमत्व मक्खिमत्व मक्खिमत्व 8 अंक
(पेड़ा) (दो विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी)
4. पंजीकरण डाक उपभोक्ता, हिंदी उपभोक्ता ( दो पुस्तक विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी विद्यार्थी 7 अंक
5. हिंदीत्व :समाप्ति के दिवस 6 अंक
(i) समय के समय उस्त्व-विभाग के इवाइविशा, ओब्लेस: ओब्लेस ओब्लेस ओब्लेस ओब्लेस, ओब्लेस: ओब्लेस ओब्लेस, ओब्लेस: ओब्लेस 2+2= 4 अंक
(ii) विद्यालय पुस्तक
ठेट: विद्यालय पुस्तक विद्यालय पुस्तक विद्यालय पुस्तक विद्यालय पुस्तक विद्यालय पुस्तक विद्यालय पुस्तक विद्यालय पुस्तक

ठेट: 1. टेस्टमाट स्थान उठाए दे दे दे दे दे दे दे दे दे देवीलाल।
2. वेस्टस्माट स्थान 25-30 दिविद्यालयविशाल रागुपूर नवे उठाए दे किंदु उठ देवीलाल।
3. उठाए दे 6+3 = 9 देवीलाल।

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B.A./B.Sc. (GENERAL) SECOND YEAR (SEMESTER SYSTEM) SYLLABUS

प्रकरण द ह (कमाल) (भिन्न वी.टी. के विशिष्टभावी है को)  
मानक वेणा

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<td>हिरंजी द पिंपण्ड दे रित</td>
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बेकर्म

1. दे इंग्ली (सं.पा.) इ.अ.आधानी उपन्यास, धरणकपूर विश्वविद्यालय, भूपपाप, भूपपा, विहारी जाय जाय
2. बेकर्म, भूपपापी, लेखकी वृत्तांक, विहारी जाय जाय

पुस्तक अभ्यास

1. (क) ‘दे इंग्ली’ हिरंजी मंगोड़ी ने ‘बेकर्म’ रत्न देव दे रित दे देव दे रित दे देव दे रित दे देव दे रित दे देव दे रित
(अंक 5+4=9 अंक)
2. हिरंजी मंगोड़ी ने तटपट दिखे बेकर्म ने जूत जूत (जूत देव देव दे रित दे देव दे रित दे देव दे रित दे देव दे रित दे देव दे रित दे देव दे रित
(अंक 5+5=10 अंक)
3. अंबाच्यी दे हिरंजी दीपर हृदयारण (भाग 100 सम्पन्न दिख)
4. हिरंजी दीपर वृत्तांक
5. हिरंजी द पिंपण्ड दे रित (भाग 5+6=11 अंक)
6. हिरंजी दे हृदयारण

साधारण पुस्तकाः

1. भूपपा विनय पन्नाज अभियान, भूपपा स्नेह पुरुषवृत्ती टेक्स्ट ग्रंथ वेंड, चंडीगढ़।
2. अतिरिक्तविवेचन, रैड, भूमिकाची रंग विविध, रंगवृत्तांक, रंगवृत्तांक, पंडप, 1981.
3. माहिषिण मिथिला दोंग भेंड, प्रियापी कपडा विविध, बांधण पुरुषवृत्ती, विरोध, 1997.
4. उच्चशिक्षा मिथिला (डॉ.), विभाजन प्रियापी विविध, भूपपा स्नेह पुरुषवृत्ती टेक्स्ट ग्रंथ वेंड, 1999.
5. रंगवृत्तांक, पूर्व पुरुषवृत्ती भाग (डॉ.), मित्र स्नेह विविध, रंगवृत्तांक, पंडप, 2002.
6. बेकर्म, बुधवार मिथिला (डॉ.), प्रियापी विविध, मित्र स्नेह विविध, वेंड, 2008.
7. सादक बलातक, प्रियापी विविध हृदयारण दे बुध पुरुषवृत्ती, सादक बलातक, अभियान, 2012.
8. भूपपा विनय, प्रियापी कपडा : वेंड 3 वेंड, वेंड, पुरुषवृत्ती वेंड, चंडीगढ़।

टेस्ट: 1. टेक्स्ट लकी जड्डे दे प्रियापी।
2. देहकालीन स्नेह 25-30 विविध प्रियापी दे गरम भूपपा जड्डे दे दिंद देव प्रीतम।
3. जड्डे दे 6+3=9 प्रीतम।

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HISTORY AND CULTURE OF PUNJAB
(For B.A. candidates only)

SEMESTER-III

INSTRUCTIONS FOR THE PAPER–SETTER AND CANDIDATES: (FOR PAPER IN SEMESTER 3 AND 4)

1. The syllabus has been divided into four Units. There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 10 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 5 short answer type questions carrying 5 marks i.e. 1 mark for each. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each Unit-IV in all. Each question will carry 10 marks.

2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
   The paper-setter must put note (2) in the question paper.

3. One question from Unit-IV shall be set on the map.

Explanation:

1. Each essay type question would cover about one-third or one-half of a topic detailed in the syllabus.

2. The distribution of marks for the map question would be as under:
   Map : 6 Marks
   Explanatory Note : 4 Marks

   In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 6 places on map of 1 mark each and write explanatory note on any two of 2 mark each.

3. The paper-setter would avoid repetition between different types of question within one question paper.

Paper: HISTORY AND CULTURE OF PUNJAB 1200-C- 1700 A.D
Max. Marks : 50
Theory : 45
Internal Assessment : 05
Time : 3 Hours

Objectives: To introduce the students to the history of the region during medieval times.
Pedagogy: Lectures, library work and discussions.
Unit-I

1. Society and Culture in Punjab during the Turko-Afghan rule
2. The Punjab under the Great Mughals
3. Guru Nanak : His teachings, concept of Langar and Sangat

Unit-II

4. Salient features of the Bhakti movement
5. Main Features of Sufism in Punjab

Unit III

7. Transformation of Sikhism : Compilation of Adi-Granth; Martyrdom of Guru Arjan Dev
8. Guru Hargobind’s New policy
9. Martyrdom of Guru Tegh Bahadur

Unit IV

10. Foundation of the Khalsa
11. Post Khalsa activities of Guru Gobind Singh
12. MAP: Important Historical Places Delhi; Lahore; Sarhind; Multan; Kartarpur; Amritsar; Kiratpur; Tarn Taran; Anandpur Sahib; Fatehgarh Sahib; Paonta Sahib; Machhiwara; Muktsar

Suggested Readings:

1. Singh, Kirpal : *History and Culture of the Punjab*, Part II (Medieval Period), Publication Bureau, Punjabi University, Patiala, 1990 (3rd edn.).
   N.B. : The required detail and depth would conform to the treatment of the subject in the above survey. (This book will also form the basis of the short answer questions).


INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER IN SEMESTER 3 AND 4)

1. The syllabus has been divided into four Units. There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 10 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 5 short answer type questions carrying 5 marks i.e. 1 mark for each. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each Unit-IV in all. Each question will carry 10 marks.

2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

   The paper-setter must put note (2) in the question paper.

3. One question from Unit-IV shall be set on the map.

**Explanation:**

4. Each essay type question would cover about one-third or one-half of a topic detailed in the syllabus.

5. The distribution of marks for the map question would be as under:

<table>
<thead>
<tr>
<th>Component</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Map</td>
<td>6</td>
</tr>
<tr>
<td>Explanatory Note</td>
<td>4</td>
</tr>
</tbody>
</table>

In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 6 places on map of 1 mark each and write explanatory note on any two of 2 marks each.

6. The paper-setter would avoid repetition between different types of question within one question paper.

**Paper:** HISTORY AND CULTURE OF PUNJAB 18TH AND EARLY 19TH CENTURIES

<table>
<thead>
<tr>
<th>Component</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Marks</td>
<td>50</td>
</tr>
<tr>
<td>Theory</td>
<td>45</td>
</tr>
<tr>
<td>Internal Assessment</td>
<td>05</td>
</tr>
<tr>
<td>Time</td>
<td>3 Hours</td>
</tr>
</tbody>
</table>

**Objectives:** To introduce the students to the history of the region in the later medieval period.

**Pedagogy:** Lectures, library work and discussions.

### Unit I

1. Banda Bahadur and his achievements
2. Sikh Struggle for Sovereignty from 1716-1765
3. Role of Dal Khalsa, Rakhi, Gurmata and Misls
Unit II

4. Ranjit Singh’s rise to Power
5. Civil and Military administration
6. Relations with the British

Unit-III

7. Political Developments 1839-1845
8. Anglo-Sikh Wars
9. Annexation of the Punjab

Unit-IV

10. New Developments in literature, art and architecture in the Punjab region
11. Social life with special reference to the position of women, fairs, festivals, folk music, dance and games in the Punjab.
12. MAP Important Historical Places Lohgarh; Sarhind; Gujranwala; Lahore; Amritsar; Multan; Peshawar; Sialkot; Ferozepore; Ambala; Gujrat; Mudki; Ludhiana.

Suggested Readings:

1. Singh, Kirpal : History and Culture of the Punjab, Part II (Medieval Period), Publication Bureau, Punjabi University, Patiala, 1990 (3rd edn.).
   N.B. : The required detail and depth would conform to the treatment of the subject in the above survey. (This book will also form the basis of the short answer questions).


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ENGLISH (Elective)  
SEMESTER-III

Max. Marks : 100  
Theory : 90 marks  
Internal Assessment : 10  
Time Allowed : 3 hrs

Objectives:

- To provide critically sensitive and analytical understanding of literary terms, concepts and genres to the students to develop their ability to appreciate and analyze different literary texts.
- To empower the students to read, analyze and write about a text in an independent manner.
- To enhance students ability to use grammatical conventions appropriately.
- To sharpen their writing skills to write clearly, coherently and cohesively.
- To enable the students to explore, discuss and express their views on various topics.
- To motivate the students to develop basic tools of analyzing a variety of literary texts.
- To enable them to have a comprehensive knowledge of English language and literature.
- To empower an average student in such a way that English learning becomes a pleasurable endeavour.

TEXT PRESCRIBED:

William Shakespeare: *The Merchant of Venice*

LITERARY TERMS:


TESTING SCHEME:

Section-A

1. Five literary terms out of eight are to be attempted in about 50-60 words. 15 marks
2. Reference to the Context from the prescribed play. 15 marks
   
   *(The examiner will set three passages/stanzas from the prescribed play. The students will attempt any two out of these three.)*

3. Long answer type question in about 300-350 words form the prescribed text. One out of two is to be attempted. 15 marks
Section - B

4. Dialogue writing
   *(The examiner will set one descriptive passage of about 300-400 words and ask the students to re-write the same in dialogue form. The examiner, however, must ensure that the passage can easily be converted into dialogue form.)* 10 marks

5. Identifying figures of speech in sentences (unseen):
   *Simile, Metaphor, Alliteration, Assonance.* 10 marks
   *(The examiner will set ten different lines with an instruction to identify the figure(s) of speech in each sentence. The sentences should be examples of different figures of speech as mentioned above. The students are required to answer all. There will be no choice.)*

6. Grammar:
   i. Idioms and Phrases 5 marks
   ii. Complete the incomplete sentences 5 marks
   iii. One word substitution 5 marks

7. Comprehension (Unseen passage of about 1000 words) 10 marks
   *(The examiner will set an unseen passage of about 1000 word for comprehension. The passage will be followed by 5 questions to be answered in not more than 20-30 words each.)*
ENGLISH (Elective)

SEMESTER IV

Max. Marks : 100
Theory : 90 marks
Internal Assessment : 10
Time Allowed : 3 hrs

Objectives:

- To provide critically sensitive and analytical understanding of literary terms, concepts and genres to the students to develop their ability to appreciate and analyze different literary texts.
- To empower the students to read, analyze and write about a text in an independent manner.
- To enhance students ability to use grammatical conventions appropriately.
- To sharpen their writing skills to write clearly, coherently and cohesively.
- To enable the students to explore, discuss and express their views on various topics.
- To motivate the students to develop basic tools of analyzing a variety of literary texts.
- To enable them to have a comprehensive knowledge of English language and literature.
- To empower average student in such a way that English learning becomes a pleasurable endeavour.

TEXT PRESCRIBED:

An Anthology of English Verse
Ed. Department of English, Deen Dayal Upadhayaya, Gorakhpur University. New Delhi: OUP, 2004

Prescribed poems:

i. John Donne: The Sun Rising
ii. Alexander Pope: From Essay on Man
iii. Thomas Gray: Elegy Written in the Country Churchyard
iv. William Blake: The Tiger
v. William Wordsworth: Tintern Abbey
vi. John Keats: Ode to a Nightingale
vii. Tennyson: Ulysses
viii. Browning: My Last Duchess
ix. Matthew Arnold: To Marguerite
x. Hopkins: Pied Beauty
xi. A. K. Ramanujan: History
xii. W.B. Yeats: A Prayer for my Daughter
xiii. T.S. Eliot: Journey of the Magi
xiv. Thomas Hardy: The Darkling Thrush
xv. Philip Larkin: The Trees

LITERARY TERMS:

Allegory, Allusion, Antithesis, Epic, Epithet, Hyperbole, Internal Rhyme, Rhyme Royal, Terza Rima
Metaphor, Metonymy, Medias Res, Oxymoron, Mood, Tone, Personification, Stanza, Spenserian Stanza, Satire, Free paragraph
TESTING SCHEME:

Section-A

1. Five literary terms out of eight are to be attempted in about 50-60 words. 15 marks
2. Short answer type question in about 50-60 words from the prescribed text. Five out of seven are to be attempted. 15 marks
3. Long answer type of questions in about 100-120 words from the prescribed text. Three out of five are to be attempted. 15 marks

Section – B

4. Precis Writing 10 marks
5. Identifying figures of speech in sentences (unseen)
   Metonymy, Epithet, Oxymoron, Epigram, Metonymy 10 marks
   (The examiner will set ten different lines with an instruction to identify the figure(s) of speech in each sentence. The sentences should be examples of different figures of speech as mentioned above. The students are required to answer all. There will be no choice.)

6. Grammar:
   i. Choose the correct meaning of the word 5 marks
   ii. Complete the incomplete sentences 5 marks
   iii. One word substitution 5 marks

7. Comprehension (Unseen passage of about 1000 words) 10 marks
   (The examiner will set an unseen passage of about 1000 word for comprehension. The passage will be followed by 5 questions to be answered in not more than 20-30 words each.)
हिन्दी (ऐलिम्पिक द्वितीय वर्ष)

सेमेस्टर-3

पूर्णक : 99+10=100
समय : 3 घण्टे

1. तरंगिणी- मनोहर लाल आनंद, पंजाब विश्व विद्यालय पब्लिकेशन ब्यूरो, चण्डीगढ़।
   निम्नलिखित कवि पाठ्यक्रम में नियर रहे हैं:-
   मैथिलीशरण गुप्त, जयशंकर प्रसाद, सुर्यकांत त्रिपाठी निराला, सुभिरनान्दन पन्ना।
   क) 5-5 अंकों की दो संदर्भ-सहित व्याख्याएँ करनी होगी। कुल चार व्याख्याएँ पूरी जाएंगी।
   अंक-10
   ख) कवि-परिचय, सार और उद्देश्य संबंधी कुल दो प्रश्न पूछे जायेंगे।
   8 अंकों का एक ही प्रश्न करना होगा। प्रत्येक उत्तर की शब्द सीमा 200 होगी।
   अंक-08

2. एक सत्य हरिश्चंद्र- डॉ.0 लक्ष्मीनारायण लाल, राजपाल एण्ड सन्त, नई दिल्ली।
   क) संदर्भ सहित व्याख्या के लिए दो प्रश्न पूछे जाएँगे;
   उत्तर एक का ही देना होगा।
   अंक-05
   ख) पात्रों के चरित्र-विवरण, तत्वों के आधार पर नाटक की समीक्षा तथा समस्त संबंधी दो प्रश्न पूछे जायेंगे।
   8 अंकों का एक ही प्रश्न करना होगा। (शब्द-सीमा 200)
   अंक-08

3. इस खण्ड में 3-3 अंकों के तीन लघुतरी प्रश्नों के उत्तर देने होंगे। कुल 6 प्रश्न पूछे जाएंगे। ये प्रश्न इस पत्र के पूर्वोक्त दो खण्डों (तरंगिणी व एक सत्य हरिश्चंद्र) पर आधारित होंगे। (शब्द-सीमा 50)
   अंक-09

4. हिन्दी साहित्य का इतिहास- रीतिकाल : (केवल काव्य-खंड)
   रीतिकाल की परिस्थितियाँ, नामकरण, सीमा-निर्धारण, प्रवृत्तियाँ रीतिविपण्ड और रीतिमुक्त काव्य की प्रमुख विशेषताएँ, प्रमुख कवि-केशव, बिहारी, घनानंद, के संबंध में 8 अंकों का एक प्रश्न करना होगा। कुल दो प्रश्न पूछे जाएंगे। (शब्द-सीमा 200-250)
   अंक-08
5. वर्तुनिष्ठ प्रश्न
इस पत्र के पूर्वांक तीनों खण्डों के आधार पर 1-1 अंक के
दस वर्तुनिष्ठ प्रश्नों के उत्तर देने होंगे। कुल पद्धत प्रश्न पूछे
जाएँगे।

6. समीक्षा सिद्धान्त- केवल ‘नाटक’
परिभाषा, तत्व और वर्णकरण पर आधरित नाटक से
संबंधित दो प्रश्न पूछे जायेंगे। जिनमें से 7 अंकों का
एक प्रश्न करना होगा। (शब्द सीमा 200)

7. व्यावहारिक व्याकरण–
क) समाकृति, शिल्पीकर्म शब्द-युग्म 3) (चार में से तीन)
ख) स्वर-संधि एवं व्यंजन-संधि 3)
ग) संविधा-विचित्रण(केवल व्यावहारिक) 3) (चार में से तीन)
घ) वाक्य-शोधन 3) (चार में से तीन)
ड) विराम-चिह्न 3)

8. तकनीकी शब्दावली (केवल प्रशासकीय शब्दावली)
(सारणी शब्दावली)
15 में से 10 का उत्तर देना होगा।
अंतर्तिक मूल्यांकन–
निर्देश :-छह लेक्चर Text के और तीन लेक्चर व्याकरण के अनिवार्य होंगे।

प्रश्नात्मक शब्दावली
1. Acceptance  स्वीकृति
2. Account लेखा, खाता, हिसाब
3. Accuse अभियोग लगाना
4. Acknowledge (fact etc.) अभिस्वीकार करना, मानना कबूल करना
5. Acknowledgement due रसीद, पावती सहित
6. Addressee पाने वाला
7. Adjournment स्थगन
8. Administration प्रशासन
9. Admissible ग्राह्य, स्वीकार्य
<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>Hindi</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>Affidavit</td>
<td>शपथ लेना, हलफनामा</td>
</tr>
<tr>
<td>11.</td>
<td>Agent</td>
<td>अभिकर्ता, एजेंट</td>
</tr>
<tr>
<td>12.</td>
<td>Agitation</td>
<td>आन्दोलन</td>
</tr>
<tr>
<td>13.</td>
<td>Agreement</td>
<td>करार, अनुबंध, सहमति</td>
</tr>
<tr>
<td>14.</td>
<td>Allowance</td>
<td>भत्ता</td>
</tr>
<tr>
<td>15.</td>
<td>Amenity</td>
<td>सुख–सुविधा</td>
</tr>
<tr>
<td>16.</td>
<td>Anti-Corruption Officer</td>
<td>भ्रष्टाचार निरोध अधिकारी</td>
</tr>
<tr>
<td>17.</td>
<td>Appeal</td>
<td>अपील, अपील करना</td>
</tr>
<tr>
<td>18.</td>
<td>Appointment</td>
<td>नियुक्ति</td>
</tr>
<tr>
<td>19.</td>
<td>Appoint</td>
<td>नियुक्ति करना</td>
</tr>
<tr>
<td>20.</td>
<td>Approval</td>
<td>अनुमोदन</td>
</tr>
<tr>
<td>21.</td>
<td>Article</td>
<td>अनुच्छेद, नियम, वस्तु</td>
</tr>
<tr>
<td>22.</td>
<td>Association</td>
<td>संघ, समाज, संगम</td>
</tr>
<tr>
<td>23.</td>
<td>At Par</td>
<td>सममूल्य पर</td>
</tr>
<tr>
<td>24.</td>
<td>Attendant</td>
<td>परिचर</td>
</tr>
<tr>
<td>25.</td>
<td>Attestation</td>
<td>साक्ष्यांकन, अनुप्रमाणण</td>
</tr>
<tr>
<td>26.</td>
<td>Audit</td>
<td>लेखा परीक्षा</td>
</tr>
<tr>
<td>27.</td>
<td>Ballot Paper</td>
<td>मतपत्र, मतपत्री</td>
</tr>
<tr>
<td>28.</td>
<td>Ban</td>
<td>प्रतिबंध, रोक, पाबंदी</td>
</tr>
<tr>
<td>29.</td>
<td>Bonafide</td>
<td>सद्भावी, वास्तविक, असली</td>
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<td>पुस्तक मेला</td>
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<td>कार्यालय, ब्यूरो</td>
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<td>32.</td>
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<td>मंत्री मंडल</td>
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<td>33.</td>
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<td>अभ्य पर्य, प्रार्थी, उपनिदेशार</td>
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<td>34.</td>
<td>Care-taker</td>
<td>रखवाला, अवधायक</td>
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<td>35.</td>
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<td>बिंदा प्रस्ताव, परिमिता</td>
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<td>37.</td>
<td>Certificate of Medical Fitness</td>
<td>आरोग्य प्रमाण–पत्र</td>
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<td>38.</td>
<td>Character Certificate</td>
<td>चरित्र प्रमाण–पत्र</td>
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<td>39.</td>
<td>Charge Sheet</td>
<td>आरोप पत्र, फर्डे, जुर्म</td>
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<td>Circular</td>
<td>परिपत्र, गश्ती–विहद्धी</td>
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<td>41.</td>
<td>Circulation of Traffic</td>
<td>यातायात परिचालन</td>
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<td>42.</td>
<td>Circus</td>
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<td>43.</td>
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<td>47.</td>
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<td>63.</td>
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हिंदी (ऐदिघ्न्य द्वितीय वर्ष)
सेमेस्टर-4

पूर्णांक : 90+10-100
समय : 3 घण्टे

1. तंगनी-मनोहर लाल आनन्द, पंजाब विश्व विद्यालय, पब्लिकेशन ब्यूरो, चण्डीगढ़
   से प्रकाशित निरन्तर कवि पाठ्यक्रम में निम्नलिखित हैं:-
   महादेवी वर्मा, अज्ञेय, धर्मवीर भारती।

   क) 5-5 अंकों की दो संबंध सहित व्याख्याएं करनी होगी।
      कुल चार व्याख्याएं पूरी जाएंगी।
   अंक-10

   ख) कवियों की उम्मीद से उद्देश्य संबंध उसके कृति पूरा प्रश्न जाएंगे। 8 अंकों का एक प्रश्न करना होगा। उत्तर सीमा
      200 शब्दों की होगी।
   अंक-08

2. आदर्श अवधारणा - सं. डॉ.0 संसार चन्द, पंजाब विश्व विद्यालय,
   पब्लिकेशन ब्यूरो चण्डीगढ़ द्वारा प्रकाशित

   क) एकांकी के तत्वों के आधार पर सामाजिक प्रश्न (संगीत-लेखन, चार्ट्रिच-चित्रण, उद्देश्य संबंधी) का प्रश्न
      पूछें जाएंगे। 8 अंकों का एक प्रश्न करना होगा।
   अंक-08

   ख) संबंध सहित व्याख्या नहीं पूरी जाएंगी।

3. हिंदी साहित्य का इतिहास : आधुनिक काल (केवल काव्य-खण्ड)
   आधुनिक काल के भारतेन्दु-युग, खंडवदी युग, तत्काल, प्रणविधान,
   प्रयोगवाद और उसके कविता के केवल प्रमुख प्रतिभाओं से संबंधित 10 अंकों का एक प्रश्न करना होगा। कुल दो प्रश्न पूछें जाएंगे।
   (शब्द सीमा-सीमा 250)
   अंक-10

4. वस्तुविज्ञ प्रश्न
   इस पत्र के पूर्वांक तीन खण्डों के आधार पर एक-एक अंक
   के दस वस्तुविज्ञ प्रश्न करने होंगे। कुल पन्नां प्रश्न पूछें जाएंगे।
   अंक-10
5. संलग्न 50 टिप्पणियों का अभ्यास :  
पूछी गई दस टिप्पणियों में से पाँच का उत्तर देना होगा।  
अंक-10

6. समीक्षा सिद्धान्त : केवल ‘एंकाकी’  
एकांकी के तत्त्व, परिभाषा और वर्णाकरण से संबंधित दो  
प्रश्न पूछे जाएंगे। 10 अंको का केवल एक प्रश्न करना होगा।  
शब्द-सीमा 250)  
अंक-10

7. सार लेखन  
अंक-8

8. शासकीय पत्र लेखन  (दो में से एक)  
अंक-8

9. विस्तारण  
अंक-8

आंतरिक मूल्यांकन  
अंक-10

निर्देश : 6 लेख्चर Text के और 3 लेख्चर व्यक्तरण के अनिवार्य होंगे।

50 टिप्पणियों

1. A brief note is placed below  
संक्षिप्त टिप्पणी नीचे प्रस्तुत है।  
2. Acknowledge receipt of this  
इसकी पाबती भेजिए।  
3. Action as proposed may be taken  
यथा प्रस्तावित कार्यवाही की जाए।  
4. Agenda of the meeting is put up  
बैठक की कार्यसूची प्रस्तुत है।  
5. Application may be rejected  
आवेदन अस्वीकार कर दिया जाए।  
6. Approved as proposed  
प्रस्ताव के अनुसार अनुमोदित  
7. Administrative approval may be obtained  
प्रशासनिक अनुमोदन प्राप्त किया जाए।  
8. Await reply  
उत्तर की प्रतीक्षा करें।  
9. Await further report  
और विवरण की प्रतीक्षा करें।  
10. Ascertain this position please  
कृपया स्थिति का पता लगायें।  
11. Amended draft is submitted for approval  
संशोधित प्रारूप अवलोकनार्थ प्रस्तुत है।  
12. Brief resume of the case is given below  
मामले का संक्षिप्त सार नीचे दिया गया है।  
13. Call for explanation  
स्पष्टीकरण माँगे।  
14. Call for report  
रिपोर्ट मंगवाएं।  
15. Comply with the orders  
आदेशों का पालन करें।  
16. Clarify the position please  
कृपया स्थिति का स्पष्ट करें।  
17- Copy enclosed for ready reference  
सुलभ संदर्भ के लिए प्रतिलिपि संलग्न है।  
18. Copy is enclosed  
प्रतिलिपि संलग्न है।
19. Copy forwarded for information and Necessary action
20. Case may be kept pending
21. Delay should be avoided
22. Disciplinary proceedings may be initiated
23. Draft reply is put up
24. Enquiry may be conducted
25. Expedite action
26. Explanation may be called for
27. Facts for the case may be put up
28. For perusal and return
29. For comments please
30. For sympathetic consideration
31. Forwarded and recommended
32. I concur with the proposal
33. I have no remarks to offer
34. Inform all concerned
35. Issue a circular
36. Keep pending
37. Kindly accord sanction
38. Kindly confirm
39. Matter is under consideration
40. No action is necessary
41. Needful has been done
42. Order may be issued
43. Please see the proceeding notes
44. Put up the relevant papers
45. Reminder may be sent
46. Report compliance immediately
47. Specific reason may be given
48. Submitted for information
49. This may be treated as confident
50. Verified and found correct

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पंजीकृत (स्पेशलिस्ट)
श्री. (महिला) बांग्ला, समाप्त 2018 के रिपोर्ट के लिए

सममत दीना

पाठ्यक्रम

1. भाषवाटी लेखन विषय

2. मदरसे व अधिश्रुत

3. पंजीकृत दर फिलिफ्रांस (1701 ईं. 1900 ईं)

4. कांवड़ी लेखन मदरसा

5. कृष्ण विशालता

वेब्यूम

1. भाषवाटी काहिक माजीमायण (कंप.) देव, यक्ष संगीत, धर्मज्ञान संदिग्ध, धर्म मुद्रएवमि, धर्म देवी

(निर्देशन वर्तमा: माज, मीनाल, मनमा डूंडे मान, मम्मत शिक्षण मान, मम्मत अधी दीश भूलोन)

2. मंचे मंच, महात्मय लं मदरसा, रशिद अमित जयव, भरती धूला, चंडीगढ़

पुस्तिका भें श्रीमान

1. (१) ‘भाषवाटी काहिक माजीमायण’ पुस्तक दिवशि पुरस्कार माधय संशोधक शिक्षक (दे किसी दिन)

(२) लेख पुस्तक किसी काहिक र संशोधकर दिवशि, माधय माधय माधय माधय माधय (दे किसी दिन)

2. (१) ‘मंचे मंच’ महात्मय लं मदरसा पुस्तक दे आधार दूर्दे पुरस्कार आंशक दे पटरहाँ दे धूला दे पहली पुस्तक (दे किसी दिन)

(२) मदरसी की माधय संशोधक (दे पुस्तक दिवशि दिन)

3. काहिक मंचांते मदरसी दिनै लघु दूर्दे दूर्दे पुरस्कार ( मंच पुस्तक किसी पुस्तक)

(पुस्तक दूर्दे दिवशि कान करसे संशोधक दे धूला दे धूला)

4. पंजीकृत दर फिलिफ्रांस (1701 ईं. 1900 ईं) देव मूडी काहि-यात्रा दे हिंसा - माधय माधय माधय (मंचा किसी कान - दूर्दे दूर्दे 50 संशोधक दे धूला दे धूला)

5. कांवड़ी काहि-माधय: (मुखयल कान धूला), लघु मंचांते, लघु दूर्दे मंचांते (दे पुस्तक किसी दिवशि पुरस्कार आंशक)

6. कृष्ण विशालता: टाइमसी भाषा, विशालता भाषा, अधिश्रुत, धूला भाषा, जनमत, निकाल दे धूला (दे धूला किसी दे धूला)

क्रिश्न नड़त: मंचे पाठ्यक्रम लं दूर्दे दिन 6 + 6 = 12 सतीविशा।

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B.A./B.Sc. (GENERAL) SECOND YEAR (SEMESTER SYSTEM) SYLLABUS

पनस्पी (विलैविटोर)  
सी. इ. (मर्जल) वर्ष दूर, अप्रैल/मई 2019 दे रिभिविषय लक्षी  
ममनदच छेमा  

पाठ्यम  

1. भावरक लि चेतरी बलिडा  

2. वापकी संगुपी  

3. पनस्पी माँयू रा रिभिविषय (1701 ईं 1900 उंच)  

4. माँयू अर्षकर दा  

5. दूधकार्य दिविष्यार  

वेदम  

1. पनस्पी लि जुलीजीवन (मंरपा) वर्ष पाव, पक्कीखोर्म खिस्ति, पंक्ष पुतीचविस्टी, चंडीगढ़।  

(रिभिबिषण खिनी: पाँच वर्ष, वर्ष पाव, पक्कीखोर्म, पक्की दशा मजे डूर खिस्ति।)  

2. वांबा -पुर्भा (संधि) मुरिंस्ट ब्रह्मान्त वैमुख, पक्कीखोर्म खिस्ति, पंक्ष पुतीचविस्टी, चंडीगढ़।  

प्रफिट बैं लिनी  

1. (व) पनस्पी लि जुलीजीवन पुमुख देरुँ 'पुमुख माँयू दिविष्यार (दे दिविष्यार दिविष्य)  

(व) रिभिबिषण वदा - पुमुख देरुँ दिविष्यार दिविष्यार दिविष्य देरुँ 'पुर्भा दिविष्यार दिविष्यार (दे दिविष्यार दिविष्य)  

2. (व) वांबा -पुर्भा पुमुख देरुँ अवस्था के, लिन्न, पुमुख दिविष्यार दे वांबा सुवां लिन्नी पुमुख (दे दिविष्यार दिविष्य)  

(व) वापकी लिन्नी दिविष्यार दिविष्यार दिविष्य दिविष्य वापकी लि रिभिबिषण दी (दे पुमुख दि दिविष्यार दिविष्य दिविष्य)  

3. वापकी लिन्नी दे वापकी लिन्नी दिविष्यार देरुँ 'पुमुख देरुँ 'पुमुख (अंग पुमुख देरुँ पुमुख)  

(पुमुख रा पुमुख दि - कुतुब पुमुख देरुँ 'पुमुख देरुँ 'पुमुख)  

4. पनस्पी माँयू रा रिभिविषय (1701 ईं 1900 ईं) वर्ष वांबा, संगितम अरुँ  

वांबा माँयू रा (संधि) पुर्भा देरुँ पुर्भा देरुँ पुर्भा (दे दिविष्यार देरुँ 'पुर्भा 50 सावस देरुँ 'पुर्भा देरुँ)  

5. माँयू असेल्यात: माँयू मे संवस, माँयू मे संवसीडा, माँयू मे मैली, माँयू मे  

मांयू दि दिविष्यार (दे पुमुख दि दिविष्यार दिविष्य)  

6. नेपाल दिविष्यार : नेपाल दि दिविष्यार, ब्रह्मान्त दे नेपाल, नेपाल दि नेपाल  

पाठ्यम  

मणित्य पुमुख:  

1. पनस्पी माँयू रा रिभिविषय (1701-1900), पंक्ष पुतीचविस्टी, चंडीगढ़।  

2. पनस्पी माँयू रा रिभिविषय (1701-1900), पंक्ष पुतीचविस्टी, पटियाला।  

3. पक्कीखोर्म सिंध दे हिस्टोरिय सिंध भागेत, 'पनस्पी माँयू देरुँ 'पुर्भा देरुँ दे रिभिविषय', लाखें खुंब पाव, छुरियार।  

4. सिंध, पक्कीखोर्म (वर्ष.), मैडर दिविष्यार दामा दिविष्यार, पक्कीखोर्म खिस्ति, पंक्ष पुतीचविस्टी, पटियाला, 1998।  

5. शिथाक, सुंदरिसिंध सिंध (संधि.), पंक्ष पुर्भा दिविष्यार, पंक्ष पुर्भा मानवसिंधी, नस्भाल  

6. अनुपम, योंन कंध (वर्ष.), मैडर समय, छुंब खुंब, छुरियार।  

7. पालीबाल, पुर्भ सिंध (वर्ष.), वांबा दिविष्यार अरुँ पंक्ष पुर्भा मानव समय, संव संवसीडा, पंक्ष पुतीचविस्टी, पटियाला, 2002।  

8. हंसी, 'मांयूसंग ब्रह्मान्त दिविष्यार', मैडर पक्कीखोर्म, पटियाला, 2002  

9. ज्वाला, ज्वाला सिंध (वर्ष.), 'पंक्ष पुर्भा मूंड दे मूंड', बिलास संव बिलास, अभिव्यक्त, 2012।  

10. ताड़ी, शीतल सिंध, पंक्ष पुर्भा मानवसिंधी दे अभिव्यक्त वांबा पक्कीखोर्म, बिलास संव बिलास, अभिव्यक्त  

सिंधियां तेंट: मुर्जल पाठ्यम केही उंटे रिभिष्य  6+6=12 पार्थीवाल।  

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Paper - Sanskrit :
श्रीमद्भगवद्गीता एवं ब्रह्मचर्य
(आन्तरिक परीक्षा- 10, लिखित परीक्षा- 90)

पूर्णक: 90+10=100
समय-3 घंटे

निदेश तथा उद्देश्य-

• प्रश्नपत्र का माध्यम हिन्दी होगा। उत्तरों का माध्यम संस्कृत, हिन्दी, पंजाबी या अंग्रेजी में से कोई एक भाषा होगी।
• विद्यार्थियों को भारतीय दर्शन के अहिंसक धर्म का श्रीमद्भगवद्गीता (चतुर्थ अध्याय) में अतिपादित निष्काम कर्मयोग, समतल योग में सिखते योगी पुरुषों का आचरण एवं उनकी महिमा, विभिन्न प्रकार के ज्ञानवाद तथा ज्ञान का महत्व इत्यादि विषयों का अध्ययन कराना।
• इसके अतिरिक्त व्यापक व्याख्यात्मक शब्दावली द्वारा विद्यार्थियों की संस्कृत के प्रति रुचि जागृत कराना।
• संस्कृत पूर्ण वेत्तात्सिक प्रेम व्यक्तिगतिक कार्य के प्रमुख नियमों का शोध कराना।
• पत्र का आध्यात्म समय नीति परियोजना (प्रतियोजित) प्रतिसाद होगा, जिसमें तीन परियोजना कमयोजित का होगी।
• सभी प्रश्नों में शास्त्रप्रतिवास अथवा निर्दिष्ट विकल्प आवश्यक हैं।

UNIT-I
(क) गीता (चतुर्थ - अध्याय) (दो सूत्र/श्रेण : सप्तसंग अनुवाद पत्रम् व्याख्या) 2x10= 20 अंक
(ख) गीता (चतुर्थ अध्याय) पर आधारित समीक्षात्मक लघुप्रश्न 05 अंक

UNIT-II
(ग) व्याख्यात्मक संस्कृत शब्दावली : वस्त्र, आभूषण एवं ग्रंथार्थक (15 में से 10 शब्दों की संस्कृत) 10x1= 10 अंक

1. कंकन-कंकनः 2. कुत्ता-कुत्तुकः 3. कोट-पावारः
4. चादर-चन्द्रः, चन्द्राच्छादनः 5. जूता-उपानतः 6. तकिया-उपायनः
7. दरी-आर्यान्तः 8. धुधा-उपरीतः 9. धौति-अधोरङ्गः,
10. पगड़ी-पिघलः उपयोगः 11. पराग-परविका 12. पायलाम-पावारः
13. वेंट-बाधर्दिनः 14. रुमाल-रुक्षः 15. श्रीरवानी-पावारः,
16. शाकी-शारिकः 17. वेढ़-उपार्जः 18. कुष्टी-बष्मः, वसनः, चीरः.
19. अंगुली-अंगुलीकाकः, मुद्रिकः 20. कंगना-कंकणः 21. कान की सारी-कुड़ड़तः.
22. ग्राह-अल्पः, आभोरः 23. पंक-पंकिणी 24. चुड़ी-काचवलः, काचवलः
25. स्थ-छोटिकः 26. पाण्डु-नुसः, नुसः 27. वाज़ूं (अग्नि लेंट)-केसूः
28. हार-हारः 29. सोनें का कङ्का-कटः 30. आयना (सीसी)-दर्जः, आदरः.
UNIT-III

(र) व्यक्ति सम्बन्ध

(इ) देश - समार

(उ) लेखित प्रमाण: अनु, मानु, तरंग, तमन - केवल उदाहरण ही प्रदेश है)

UNIT-IV

(ए) व्यक्ति: तत्त, फल्त, यत् (तीनों हिंदी में) राजन, तथा चन्द्रमस.

(ओ) पाठ: अस्स, दा, कुंप, शक, प्रचु, मित्र (केवल त्रुटि, लोटि, लोटे, लोटि, चिपिचिप तकर में)

(ऋ) छंद: अनुपुष्प, वेदवर, इन्द्रवर, उपेन्द्रवर, उपनाशि (दो के ही संदर्भ हरण लक्षण प्रदेश है)

UNIT-V

(ऋ) हिंदी से संस्कृत में अनुवाद (10 में से 5 बाक्य)

5x2=10अक

सहायक पुस्तक:- शीषगोप, चोखम्बा पाठान, याराणसी

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संस्कृत (इलेक्ट्रव)
बी.ए.(जनरल) द्वितीय वर्ष

SEMESTER-IV

Paper - Sanskrit : नाटक एवं व्याकरण

(आंतरिक परीक्षा- 10, गिरिजित परीक्षा- 90)

पूरकांक: 90+10=100
समय-3 घण्टे

निदेश तथा उद्देश्य =

- प्रश्नपेश का माध्यम हिन्दी होगा । उत्तरों का माध्यम संस्कृत, हिन्दी, पंजाबी या अंग्रेजी में से कोई एक भाषा होगी।
- संस्कृत नाटप्रसंग के व्ययन और प्रवृत्तियों से परिचित कराना।
- इसके अतिरिक्त व्याख्यार शब्दावली द्वारा विद्यार्थियों की संस्कृत के प्रति रुचि जागृत करना।
- संस्कृत पूर्ण वैज्ञानिक एवं व्याकरणनिष्ठ माध्यम है । अतः विद्यार्थियों की संस्कृत व्याकरण के प्रमुख नियमों का बोध कराना।
- पत्र का अध्ययन समय नी पीरियड(प्रतिपत्र) प्रतिसामान्य होगा, जिसमें तीन पीरियड कम्पोजिशन के होंगे।
- सभी प्रश्नों में शास्त्रीयता अथवा निदेश विकल्प आवश्यक हैं।

UNIT-I

(क) दूर्तवाक्यम् - भाषा (तीन सूक्ति/श्लोक : सप्तसंग्ह अनुवाद एवं व्याख्या)

(ब) समीक्षात्मक लघु प्रश्न, पात्र चरित्र चित्रण, लेखक परिचय, रचनाएँ व दूर्तवाक्यम् की विश्वस्ततु

UNIT-III

(ग) व्याख्यार शब्दावली : अक्ष, भोजन एवं तत्समवद पात्र (15 में से 10 शब्दों की संस्कृत)

1. अरहर-आठकः
2. उड़द-माषः
3. गेहुः-गोधूः
4. गेहुः का आटा - गोधूःपूर्णः
5. चना-चणकः
6. जी-जवः
7. चावल-तण्डुळः, नीहिः
8. ज्वार-ज्वानालः
9. तित-तितः
10. दुल्ह-हिन्दुः
11. पान-चानामम, शालि:
12. बाजरा-प्रियः
13. बेसन-चणकरूः
14. मसूर-मसूः
15. मूः-मुः
16. संतु-सङ्कः
17. सरसोः-सरः
18. हत्ती-हरिणः
19. अचार-अभित्रमः
20. गरम भोजन-उपासोऽनमः
21. तिच्छी-कृशः
22. पतनी-अवतः
23. चित्रना-चित्राणः
24. ठंडाभोजन-शीतभोजनः
25. भृता-भृतः
26. भा-चोतः, ओतः
27. मछा-तकः
28. रसोई-समी, पाकशाला, महानस
29. रायता-रायकः
30. रोटी-रोटिका
31. झार-झारः
32. समूह-समोः
33. सीम-सुः
34. हीँग-हिंगः
35. अगनी-उस्ता
36. कटोरा-कटोरः
37. कटही-कटाहः, स्वेदनी
38. कांच का मिलास - काचरकसम, काचचकः
UNIT-III

(२) तत्त्वरूप - समास

(३) कृत्त्र अन्तर: क, चवु, तथा तथु तथाप्रत्यय

(४) शब्दरूप: किम्ब सर्व (तीनों विभागों में), महत्त्ववर्धक (पुत्रों में) एवं कठिन

UNIT-IV

(४) आतुर-रूप क, कीज, ग्रह, झा, श्रु तथा कथ (में ही बिहिलवक लकार में)

(५) कारक (में ही सामान्य नियम-आशुत वाक्यों को शुद्ध करना)

UNIT-V

(६) छन्द: विविधतिका, मन्दाकांता, मालिनी, वस्त्रतिका तथा भूमिग्रामवात (दो के ही संदृश लक्षण प्रत्यय है)

सहायक पुस्तक: - श्रीप्रवृट्ठ, चिलम्बा प्रकाशन, वाराणसी

*******************
URDU (Elective)

SEMMESTER-III

Prose and Poetry

Theory: 90 marks
Internal Assessment: (5+3+2) 10 marks
Time: 3 Hrs.

Unit-I

i. Explanation of Verses (Ghazaliat):
   Mir Taqi Mir, Khwaja Mir Dard, Ibrahim Zauq, Mirza Asadullah Khan Ghalib, Momin Khan Momin, Hasrat Mohani, Raghupati Sahay Firaq Gorakhpuri.
   20 marks

ii. Explanation of Nazms:
   Search Results
   Allama Iqbal - Chand aur Tare, Mulla aur Bahisht
   Nazir Akbarabadi - Mele ki Sair
   Brij Narayan Chakbast - Ramayan ka ek Scene
   10 marks

Unit-II

Explanation of prose:
Mir Amman - Sair Pehle Darvesh Ki
Sir Syed Ahmed Khan - Sarab-e-hayat
Farahatullah Baig - Murda Badast Zinda Ast
Munshi Prem Chand - Roshni
Rashid-ul-Kheri - Toonfan-e-Hayat Ka Ek warq
30 marks

Unit-III

Central idea of a lesson or nazm (from Unit I & II above) 15 marks

Unit-IV

Introduction and literary contribution of the poets & prose writers
Poets: Mir Taqi Mir, Mirza Asadullah Khan Ghalib, Nazir Akbarabadi
Prose writers: Sir Syed Ahmed Khan, Altaf Hussain Hali, Munshi Prem Chand 15 marks

Books Prescribed:

URDU (Elective)

SEMMESTER-IV

Novel: Ek Chadar Maili Si

Theory : 90 marks
Internal Assessment : (5+3+2) 10 marks
Time: 3 Hrs.

Unit-I
Novel - One question each on its Plot and Characters 30 marks

Unit-II
Explanation of Paragraph from Novel 30 marks

Unit-III
Rajinder Singh Bedi Ki Novel Nigari Ki Khususiyat
Or
Novel Ke Ajza-e-Tarkibi 15 marks

Unit-IV
Unseen paragraph (candidate will be asked three questions from it) 15 marks

Books Prescribed :

1. Ek Chadar Maili Si, by Rajinder Singh Bedi.

**************************
PERSIAN (Elective)
SEMESTER-III

Instructions to the paper setter/examiner:

There will be one paper in each Semester i.e. 3rd and 4th Semester of 90 marks each and Internal Assessment of 10 marks for the session of 2017-18.

**Paper-A : Prose**

| Marks: 90 |
| Internal Assessment : 10 |
| Time : 3 hours |

1. Translation of text pieces into English, Hindi, Urdu, Panjabi or Persian. 20 marks
2. Explanation of text pieces into English, Hindi, Urdu, Panjabi or Persian. 20 marks
3. Summary or central idea of the text prescribed as in Dastanha-ye-Kutah. 20 marks
4. Simple direct questions on the life and works of the authors. 30 marks

**Books prescribed**

Nisabe Jadide Farsi
(Published By Jayyad Press Ballimaran Delhi)
Only following portions from Prose Section.

ii. Dastan-e-Kutah by Mohammad Hejazi.
PERSIAN (Elective)

SEMESTER-IV

Instructions to the paper setter/examiner:

There will be one paper in each Semester i.e. 3rd and 4th Semester of 90 marks each and Internal Assessment of 10 marks for the session of 2017-18.

Paper-B: Poetry

Marks: 90

Internal Assessment: 10

Time: 3 hours

Distribution of marks:

1. Translation of text pieces into English, Hindi, Urdu, Panjabi or Persian. 20 marks
2. Explanation of text pieces into English, Hindi, Urdu, Panjabi or Persian. 20 marks
3. Central idea of the poem. 20 marks
4. Simple direct questions on the life and works of the poets as prescribed in the text. 30 marks

Books prescribed

Nisab-e-Jadeed-e-Farsi(Published by Jayyad Press Ballimaran, Delhi). Only following portions from Prose Section.

Az Gzalliyat-e-Hafiz

Agar Aan Turke Shirazi Be Dast Aarad Dile Maara.
Saaqi Benur Badah Bar Afrooz Jam-e- Maa.
Doosh deedam Keh Malayek Dare Maiykhaneh Zadand.

Gazalliyat-e-Khsrow:

Jan Ze Tan Burdi-o- Dar Jaani Hunooz.
Madeh Pandam Ke Man Dar Seeneh Saudayee Digar Daram.

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FRENCH (ELECTIVE)

SEMESTER-III

WRITTEN COMPREHENSION AND EXPRESSION, GRAMMAR IN CONTEXT AND CREATIVE WRITING

Max. Marks : 100
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 hours

I  Selected Readings in Poetry:
Questions, explanation of stanzas or of poems, central ideas and summaries
of poems to be asked and answered in French. 15 Marks

II  (a) Questions (including General and based on Civilization) from the prescribed
Text book (of 3 marks each). 15 Marks

(b) Questions on applied grammar, including conjugation of verbs in applied
form, from the textbook. 20 Marks

(c) Composition based on the subject or theme from the text. 10 Marks

(d) Comprehension of an unseen text.
   Ten questions to be put in French and to be answered in French. 10 Marks

III  Prose:
Direct simple questions based on the prescribed text (Saison-2, Dossier 0-4) to be asked and answered in
French, Questions should be of 5 marks each. 20 Marks

CHOICE TO BE GIVEN IN ALL QUESTIONS

Courses of Reading


- Livre de l’élève
- Cahier d’exercices
Poetry:

Comprehension, explanation, literary, appreciation and criticism of the poems.

The following 5 poems to be studied:

1. **PIERRE DE RONSARD**
   Recueil: *Odes*
   *Mignonne, allons voir si la rose*
   [http://poesie.webnet.fr/lesgrandsclassiques/poemes](http://poesie.webnet.fr/lesgrandsclassiques/poemes)

2. **Victor HUGO**
   Recueil: *Les contemplations*
   *Demain, dès l'aube*
   [http://poesie.webnet.fr/lesgrandsclassiques/poemes](http://poesie.webnet.fr/lesgrandsclassiques/poemes)

3. **Jacques PREVERT**
   Recueil: *Paroles*
   *Le cancre*
   [http://www.unjourunpoeme.fr/poeme/le-cancre](http://www.unjourunpoeme.fr/poeme/le-cancre)

4. **Jacques PREVERT**
   Recueil: *Paroles*
   *Déjeuner du Matin*
   [https://vivelapoesie.wordpress.com/](https://vivelapoesie.wordpress.com/)

5. **Paul VERLAINE**
   *Il pleure dans mon cœur*

Prose: *Tintin Au Tibet*, Casterman

Note: 1. Questions on composition and unseen passage to be based on the vocabulary and grammar of the textbook covered by the students in B.A. 3rd Semester.

2. All questions are to be asked and answered in French.

For the information of private candidates:

The theory paper would be proportionately marked out of 100 as there is no internal assessment.
FRENCH (ELECTIVE) 
SEMESTER-IV 
CREATIVE WRITING AND EXPRESSION, GRAMMAR IN CONTEXT

Max. Marks : 100
Theory : 60 Marks 
Internal Assessment : 10 Marks 
Viva : 30 Marks 
Time : 3 hours 

I 
Selected Readings in Poetry:
Questions, explanation of stanzas or of poems, central ideas and summaries
of poems to be asked and answered in French. 15 Marks 

II 
Prose:
Direct simple questions based on the prescribed text (Saison-2, Dossier 5-9) to be asked and
answered in French, Questions should be of 5 marks each. 15 Marks 

III (a) 
Questions (including General and based on Civilisation) from the prescribed
Text book (3 marks each). 15 Marks 
(b) 
Questions on applied grammar, including conjugation of verbs in applied
form, from the textbook. 15 Marks 

CHOICE TO BE GIVEN IN ALL QUESTIONS 

Courses of Reading 

Text Book : Saison-2 Dossier (5-9) Méthode de Français par Marie-Noëlle Cocton, Anneline
Dintilhac, Dorothée Dupleix, Delphine de Ripaux, Anouchka Oliveira, Les Editions
Didier, 2014

- Livre de l’élève 
- Cahier d’exercices 

Poetry: 

To be studied: Comprehension, explanation, literary appreciation of the poems. 

The following 5 poems to be studied: 

1. Charles BAUDELAIRE
   Recueil : Fleurs du mal 
   L’Albatros 
   https://fleursdumal.org/poem/200
2. Charles BAUDELAIRE  
   Recueil : *Fleurs du mal*  
   *L’Homme et la mer*  
   http://www.eternels-eclairs.fr/poemes-baudelaire

3. Alphonse de LAMARTINE  
   Recueil : *Nouvelles méditations poétiques*  
   *Le papillon*  
   http://poesie.webnet.fr/lesgrandsclassiques/poemes

4. Gérard de NERVAL  
   Recueil : *Odelettes*  
   *Le point noir*  
   http://poesie.webnet.fr/lesgrandsclassiques/poemes

5. Jean-Pierre Claris de FLORIAN  
   Recueil : *Chanson*  
   *Plaisir d’amour*  
   http://poesie.webnet.fr/lesgrandsclassiques/poemes

**Prose:** Raymond Queneau ‘*Exercices de style …*’  
All questions are to be asked and answered in French.

**Viva:**  
Reading:  
Seen: 10 Marks  
Unseen: 10 Marks  
Conversation: 10 Marks  

**30 Marks**

For the information of private candidates:

1. Viva is compulsory

2. The theory paper would be proportionately marked out of 70 as there is no internal assessment.

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GERMAN (Elective)
SEMESTER-III

Summary

Max. Marks : 100 marks (Total)
Paper-A(Theory) : 90 marks
Internal Assessment : 10 marks

Paper A-Theory: 90 marks
Time: 3 hours
Note: Use of dictionary is allowed

i. Questions in applied grammar(including fill in the blanks) conforming to prescribed text-book “Lagune-2”: Chapters 1-17 upto page 87 50 marks
   (5 questions)

ii. Questions on “Culture & Civilization” from the prescribed book text-book “Lagune-2”: Chapters 1-17 upto page 87 20 marks
    (4 out of 5 questions to be attempted)

iii. Summary in German of any one short-story from Prescribed book “Texte zum Lesen und Nacherzählen”, from pages 1-12 20 marks

Internal Assessment

10 marks (Total)

i. Continuous Evaluation
ii. Attendance

Note:

1. The mode of evaluation for internal assessment is to be followed as per University guidelines.
2. For private candidates, Internal Assessment will be calculated proportionately to the marks obtained by the candidate in written examination and, wherever applicable, total of both written & oral examination (e.g. in Paper B)

Prescribed Textbook:

ii. Texte zum Lesen und Nacherzählen by Hans-Joachim Arndt, Hueber Verlag, upto page 12.

Supplementary book:

i. “Lagune-2” Arbeitsbuch by Hartmut Aufderstraße a.o: Chapters 1-17
GERMAN (Elective)

SEMESTER-IV

Summary

Max. Marks : 100 marks (Total)
End Semester Exam Paper-B (Theory) : 60 marks
Oral (viva-voce) examination : 30 marks
Internal Assessment : 10 marks

Paper B-Theory : 60 marks (Total)

Time : 3 hours

Note: Use of dictionary is allowed

i. Questions in applied grammar (including fill in the blanks) confirming to prescribed text-book “Lagune-2”: Chapters 18-34 30 marks
5 questions

ii. Questions on “Culture & Civilization” from the prescribed text-book “Lagune-2”: Chapters 18-34 15 marks
4 out of 5 questions to be attempted

iii. Summary in German of any one short-story from Prescribed book “Texte zum Lesen und Nacherzählen”, from pages 12-21 15 marks

Oral (viva-voce) Examination : 30 marks (Total)

i. Conversation in German

ii. Reading of a simple unseen text and answering questions there-on

Internal Assessment : 10 marks (Total)

i. Continuous Evaluation

ii. Attendance

Note:
1. The mode of evaluation for internal assessment is to be followed as per University guidelines.
2. For private candidates, Internal Assessment will be calculated proportionately to the marks obtained by the candidate in written examination and, wherever applicable, total of both written & oral examination (e.g. in Paper B)

Prescribed Textbook:


Supplementary book:

ii. “Lagune-2” Arbeitsbuch by Hartmut Aufderstraße a.o: Chapters 18-34

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RUSSIAN (Elective)

SEMESTER-III

Paper-A (General Translation, Grammar, Composition and Comprehension): Written

Maximum Time : 3 hrs. Max. Marks : 100
Theory : 90 marks
Internal Assessment : 10 marks
(For regular students)

1. Translation from simple Russian into English/Hindi/Punjabi. (about 120 words) 15 marks
2. Translation from simple English/Hindi/Punjabi into Russian (about 100 words) 15 marks
3. Simple applied grammar: 3 question out of 5 (5 marks each) 15 marks
   (Covered in Lessons 31-37, Wagner)
4. Question on prescribed texts in Russian : 3 questions out of 5 (5 marks each) 15 marks
   (Covered in Lessons 31-37, Wagner)
5. Composition (One out of three) on the following topics: 15 marks
6. Comprehension: 5 questions out of 7 (3 marks each) on the unseen texts to be reproduced in the question paper 15 marks

Note: Use of dictionaries is allowed

Book Prescribed

1. V. N. Wagner: Russian, PPH, New Delhi. (Lessons 31-37)

Books recommended for additional reading

2. S Khavronina: Russian in Exercise, 1978
4. Dictionaries: English-Russian dictionary
   Russian-English dictionary

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RUSSIAN (Elective)

SEMESTER-IV

Paper-B (General Translation, Grammar, Composition and Comprehension): Written

Maximum Time : 3 hrs.  
Max. Marks : 70

Theory : 60 marks  
Internal Assessment : 10 marks  
(For regular students)

1. Translation from simple Russian into English/Hindi/Punjabi. (about 80 words)  
   10 marks

2. Translation from simple English/Hindi/Punjabi into Russian (about 75 words)  
   10 marks

3. Simple applied grammar: 3 questions out of 5 (4 marks each)  
   (Covered in Lessons 38-45, Wagner)  
   12 marks

4. Questions on prescribed texts in Russian : 4 questions out of 6  
   (2 marks each)  
   (Covered in Lessons 38-45, Wagner)  
   08 marks

5. Composition (One out of three) on the following topics:  
   10 marks

6. Comprehension: 5 questions out of 7 (2 marks each) on the unseen texts to be  
   reproduced in the question paper  
   10 marks

Note: Use of dictionaries is allowed

Book Prescribed

1. V. N. Wagner: Russian, PPH, New Delhi. (Lessons 38-45)

Books recommended for additional reading

2. S Khavronina: Russian in Exercise, 1978
   Russian-English dictionary.

(iii) Oral/Practical  

Max. Marks: 30

Reading of text(s) and conversation in simple Russian

1. V. N. Wagner: Russian, PPH, New Delhi.(Lessons 31-45)
SUBJECT:

ARABIC (Elective)
BENGALI (Elective)
TAMIL (Elective)
TELUGU (Elective)
KANNADA (Elective)
MALAYALAM (Elective)

The above Syllabi for B.A.(GENERAL) SECOND YEAR (SEMESTER SYSTEM) has been

KEPT IN ABEYANCE
PHYSICAL EDUCATION

B.A. (GENERAL) THIRD SEMESTER EXAMINATION, 2018

Max. Marks : 65
Theory : 60 marks
Internal Assessment : 05 marks
Time : 3 Hrs.

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS :

(i) There shall be nine questions in all, spread over five units.
(ii) First question/unit is compulsory. It will contain six short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 12 marks.
(iii) Rest of the paper shall contain four units for descriptive questions. Each unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each unit.
(iv) All questions/units will carry equal marks.
(v) Private candidates and the students of the University School of Open Learning (USOL) will not be allowed to take this subject.

UNIT-I

Entire syllabus given in the Units II to V will be covered to set six short answer type questions in first question/unit of the question paper which is compulsory.

UNIT-II

Psychological Basis of Physical Education :

- Meaning of Psychology and Sports Psychology.
- Psychological factors effecting physical performance.
- Meaning of Learning.
- Laws of Learning.
- Learning curve, its types, characteristics and implications in Physical Education and Sports.
- Psychological characteristics and problems of an adolescent.
- The role of Physical Education and Sports in solving the problems of an adolescent.

UNIT-III

Motivation:

- Meaning, definitions, types and methods of motivation.
- Importance of motivation in Physical Education and Sports.
Transfer of Training:

- Meaning, definitions, types and factors affecting transfer of training.

UNIT-IV 12 Marks

Personality:

- Meaning, definitions, characteristics, dimensions and traits of personality.
- Factors affecting development of personality (Heredity and Environment).
- Role of physical activities in Personality Development.

Sports and Socialization:

- Meaning and definitions of socialization, socialization through sports.

UNIT-V 12 Marks

Politics, Economy, Media and Sports Performance:

- Role of politics and economy in the promotion of games and sports.
- Role of media in promotion of sports.
- Causes of deterioration and suggestions for the improvement of Sports Performance.

Softball:

- History of the game.
- Basic fundamentals.
- Equipment and specifications.
- Marking/layout of field.
- Rules and regulations (number of players, number of officials required and general rules of play).
- Major tournaments of the game.

References:


**PRACTICAL**

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<td>30</td>
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<tr>
<td>Internal assessment</td>
<td>5</td>
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**ATHLETICS**

a) History of athletics  
b) List of track and field events  
c) Marking of standard track, width of lanes and starting points for various races.

**LONG JUMP:**

(a) Approach run  
(b) Take off  
(c) Flight  
(d) Landing  
(e) Brief information of various styles and practice of any one style depending upon the facilities available  
(f) Rules and regulations of the long jump.

**PHYSICAL FITNESS TESTS:**

More emphasis shall be given on physical fitness with regard to specific physical fitness components (Endurance and Strength).

**Test 1 : ENDURANCE : 9/12 min. run and walk test.**
**Test 2 : STRENGTH : Standing broad jump test.**
Division of Practical Marks: Marks for each activity shall be divided as under:

Athletics 10 marks, Participation and achievement in sports/games 5 marks, Physical fitness 5 marks, viva voce/ practical file 10 marks and internal assessment 5 marks based on overall performance of a student during the current semester which will be assessed by the teacher concerned.

Note:
1. Polevault, Hammer Throw, Hurdles, Relay Races and steeple chase men are not included in the practical syllabus/course due to the fact that these events are highly technical. Moreover in the absence of proper facilities required for the events mentioned above may prove to be injurious /fatal to the students.
2. 12 periods per week (6 periods each for theory and practical) shall be allotted to a class.
3. The theory and practical class shall consist of 60-80 students and 30-40 students respectively.
4. The theory and practical papers shall consist of 65 and 35 marks each.
5. As per the Panjab University Calendar, Chapter XIX (Page 324) Volume III, 1990, the maximum teaching work load for an Assistant Professor in Physical Education for B.A. Pass Course is 24 periods per week, which includes theory as well as practical.
6. The choice of games by the students shall be confined to games approved by the Association of Indian Universities.
7. A student is required to prepare a practical notebook on athletics with complete marking of standard track and starting points for various races and an event (long jump) mentioned in the syllabus.

Mandatory Instructions for the Colleges:

1. Admission Criteria:
   (i) Any student opting to have Physical Education as an Elective Subject irrespective of the background of the students (sports or non-sports students) must appear in the physical fitness test. Ranking should be prepared and the top 60-80 students should be offered this subject.
   (ii) This subject should be offered to the normal students (not to disabled one).
   (iii) To measure Physical Fitness through Cardiovascular Fitness Test, Cooper’s 9 Minutes or 12 Minutes Run-Walk Test should be conducted.
   (iv) The date of Physical Fitness Test must be mentioned in the prospectus of the College.

2. Periodical Physical Inspections:

   The University/Authorities with the collaboration of the Department of Physical Education, Panjab University, shall make Periodical Physical inspections of the various colleges to ensure that the teacher student ratio is maintained by all the affiliated colleges for this subject as per the University Guidelines, and for them to ensure that infrastructure (facilities), equipment, books/professional journals and groundmen, a game boy are provided as per the requirements of the subject and directions of the Panjab University, Chandigarh.

3. Strength of Students:

   For imparting effective teaching, the strength of students in a theory class shall be between 60-80 while it shall be 30-40 students in practical class.
4. Infrastructure/facilities and Supporting personnel:

For the introduction/to continue with this subject, a college must fulfil the following mandatory requirements:

(i) A track atleast of 200 mtrs., it should, however, preferable be raised to 400 mtrs. track.
(ii) Bare minimum two Malies-cum-Groundmen for maintenance of the grounds and other infrastructure facilities etc.
(iii) A game boy to supply the sports equipments and water to the students/teachers on the ground/playfield/arena.
(iv) A store-keeper for the proper maintenance/accountability of sports equipments in the stores.

5. Number of Periods:

The number of periods for theory and practical shall be 12 periods per week (6 periods each for theory and practical) for classes i.e. B.A. First to sixth semester.

Practical period shall be projected in the college time table itself.

6. Teaching Work Load:

(i) As per the Panjab University Calendar Chapter XX (Page 298) Volume-III, 1996, the Maximum teaching work load for an Assistant Professor in Physical Education for B.A. Pass course is 24 periods per week which includes theory as well as practical.
(ii) Teachers who are preparing 6 teams for the Panjab University Inter College Competition, their work load shall be counted by including six periods per week in the teaching load of concerned teachers in Physical Education.

7. Division of Marks (Theory and Practical):

65% and 35% weightage shall be given to each theory and practical papers.

Note: STRICT ACTION SHALL BE TAKEN BY THE UNIVERSITY AGAINST THE COLLEGE(S) WHICH VIOLATES THE ABOVE INSTRUCTIONS.
PHYSICAL EDUCATION
B.A. (GENERAL) FOURTH SEMESTER EXAMINATION, 2019

Max. Marks : 65
Theory : 60 marks
Internal Assessment : 05 marks
Time : 3 Hrs.

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

(i) There shall be nine questions in all, spread over five units.

(ii) First question/unit is compulsory. It will contain six short answer type questions, spread over
the whole syllabus to be answered in brief. It will carry 12 marks.

(iii) Rest of the paper shall contain four units for descriptive questions. Each unit shall have two
questions and the students shall be given internal choice i.e. the students shall attempt one
question from each unit.

(iv) All questions/units will carry equal marks.

(v) Private candidates and the students of the University School of Open Learning (USOL) will
not be allowed to take this subject.

UNIT-I 12 Marks

Entire syllabus given in the Units II to V will be covered to set six short answer type questions in first
question/unit of the question paper which is compulsory.

UNIT-II 12 Marks

Respiratory System:

- Meaning of Respiration, types of Respiration, Organs of the Respiratory System.
- Functions of the Respiratory System. Vital capacity and its measurement.
- Mechanism and Neural Control of Respiration.

Digestive System:

- Meaning, Importance and Organs of Digestive System.
- Functions, processes, mechanism and nerve regulators of Digestive System.
UNIT-III

Circulatory System:

- Meaning of the circulatory system.
- Heart, its structure, functions and control of the heart rate.
- Various types of blood vessels and their functions.
- Cardiac Cycle.

Blood:

- Meaning, functions and composition of blood.
- Maintenance of blood supply.
- Blood groups and their importance.
- Blood Clotting.

UNIT-IV

Communicable Diseases:

Meaning of a communicable disease. Communicable diseases such as HIV/AIDS, Viral Hepatitis—A, B & C and Tetanus, their modes of transmission and methods of prevention.

Yoga:

- Meaning and aim of Yoga.
- Meaning, Principles and Importance of Asanas.
- Meditative poses (Padamasna, Vajrasana, and Sukhasana), their technique, precautions and effects/advantages.
- Cultural poses (Savasna, Halasana, Bhujangasana Sarvangasana, and Dhanurasana), their technique, precautions and effects/advantages.

Basics of Tennis:

- History of the game.
- Basic fundamentals.
- Equipment and specifications.
- Marking / layout of court.
- Rules and regulations (number of players, duration of game, number of officials required and general rules of play).
- Major tournaments and Arjuna awardees of the game.
UNIT-V

Sports Injuries:

- Basis of Sports Injuries.
- Common Sports Injuries, such as sprains, strains, fracture, dislocation, abrasions, contusion, bruise, tennis elbow. Their causes, preventive and remedial measures.
- Treatment and care (RICE) of sports injuries.

Disability and Rehabilitation:

- Meaning, types, causes and preventive measures of disability.
- Problems of the disabled. Physical Activity and health for disabled.
- Meaning and scope of Rehabilitation.

References:

PRACTICAL

Max. Marks: 35
Practical: 30
Internal Assessment: 05

GAMES

Basketball or Ball badminton and any other one game of the choice of the student.

Basketball
(a) Measurements (Basket ball ground).
(b) Number of players and officials.
(c) Rules and Regulations of the game.
(d) Fundamental and basic skills.

Football
(a) Measurements (Field & ball).
(b) Number of players and officials.
(c) Rules and Regulations of the game.
(d) Fundamental Skills.

Division of Practical Marks: Marks for each activity shall be divided as under:
   Game 10 marks, participation and achievement in sports/games 5 marks, Physical fitness 5 marks, viva voce/practical file 10 marks and internal assessment 5 marks based on overall performance of a student during the current semester which will be assessed by the teacher concerned.

Note:
1. 12 periods per week (6 periods each for theory and practical) shall be allotted to a class.
2. The theory and practical class shall consist of 60-80 students and 30-40 students respectively.
3. The theory and practical papers shall consist of 65 and 35 marks each.
4. As per the Panjab University Calendar, Chapter XIX (Page 324) Volume III, 1990, the maximum teaching work load for an Assistant Professor in Physical Education for B.A. Pass Course is 24 periods per week, which includes theory as well as practical.
5. The choice of games by the students shall be confined to games approved by the Association of Indian Universities.
6. A student is required to prepare a practical notebook of a game given in the syllabus and any one game of choice.

Mandatory Instructions for the Colleges:

1. Admission Criteria:
   (i) Any student opting to have Physical Education as an Elective Subject irrespective of the background of the students (sports or non-sports students) must appear in the physical fitness test. Ranking should be prepared and the top 60-80 students should be offered this subject.
   (ii) This subject should be offered to the normal students (not to disabled one).
   (iii) To measure Physical Fitness through Cardiovascular Fitness Test, Cooper’s 9 Minutes or 12 Minutes Run-Walk Test should be conducted.
   (iv) The date of Physical Fitness Test must be mentioned in the prospectus of the College.
2. **Periodical Physical Inspections**

The University/Authorities with the collaboration of the Department of Physical Education, Panjab University, shall make Periodical Physical inspections of the various colleges to ensure that the teacher-student ratio is maintained by all the affiliated colleges for this subject as per the University Guidelines, and for them to ensure that infrastructure (facilities), equipment, books/professional journals and groundmen, a game boy are provided as per the requirements of the subject and directions of the Panjab University, Chandigarh.

3. **Strength of Students**:

For imparting effective teaching, the strength of students in a theory class shall be between 60-80 while it shall be 30-40 students in practical class.

4. **Infrastructure/facilities and Supporting personnel**:

For the introduction/to continue with this subject, a college must fulfil the following mandatory requirements such as:

(i) A track atleast of 200 mtrs., it should, however, preferable be raised to 400 mtrs. track.
(ii) Bare minimum two Malies-cum-Groundmen for maintenance of the grounds and other infrastructure facilities etc.
(iii) A game boy to supply the sports equipments and water to the students/ Assistant Professors on the ground/playfield/arena.
(iv) A store-keeper for the proper maintenance/accountability of sports equipments in the stores.

5. **Number of Periods**:

The number of periods for theory and practical shall be 12 periods per week (6 periods each for theory and practical) for classes i.e. B.A. First to sixth semester. Practical period shall be projected in the college time table itself.

6. **Teaching Work Load**:

(i) As per the Panjab University Calendar Chapter XX (Page 298) Volume-III, 1996, the maximum teaching work load for a Assistant Professor in Physical Education for B.A. Pass course is 24 periods per week which includes theory as well as practical.
(ii) Teachers who are preparing 6 teams for the Panjab University Inter College Competition, their work load shall be counted by including six periods per week in the teaching load of concerned teacher in Physical Education.

7. **Division of Marks (Theory and Practical)**:

65% and 35% weightage shall be given to each theory and practical papers.

**Note**: STRICT ACTION SHALL BE TAKEN BY THE UNIVERSITY AGAINST THE COLLEGE(S) WHICH VIOLATES THE ABOVE INSTRUCTIONS.

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GENERAL INSTRUCTIONS FOR THE PAPER-SETTER:
The question paper will consist of five units: I, II, III, IV and V. Unit I, II, III and IV will have two questions from the respective unit of the syllabus and will carry 18 marks each. Unit V will consist of eight short answer type questions which will cover the entire syllabus uniformly and will carry 18 marks. The students are required to attempt 6 short answer type questions out of 8 in unit V which will be compulsory. The question paper should preferably carry internal division of marks for all the sub-questions of one main question. Preferably set the words limit for answer (300-350 words for units I, II, III, IV and 75 words for each short answer type question in Unit V).

INSTRUCTIONS FOR THE CANDIDATE:
The students will be required to attempt one question each from Units I, II, III and IV. Unit V will be compulsory. Students are required to attempt 6 short answer type questions out of 8 in Unit V. The words limit will be 300-350 words for Unit I, II, III and IV; and 75 words for each short answer type in Unit V.

Objectives:
1. To acquaint the students with major foundations underlying Education.
2. To enable the students to understand the concept of Philosophy of Education.
3. To enable the students to understand the concept of Educational Sociology and Educational Technology.
4. To enable the students to understand major Philosophies and their Educational implications.

COURSE CONTENTS:

UNIT-I
Philosophical, Sociological, and Technological Foundations of Education—Concept and their Role in Education.

UNIT-II
Difference between Educational Philosophy and Philosophy of Education.
UNIT-III

Information and Communication Technology—Role in Education.

UNIT-IV

Major Philosophies of the World—Idealism, Naturalism and Pragmatism—Main Features and their Contribution to Education.

Books Recommended:


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EDUCATION
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-IV

Paper-IV : PSYCHOLOGICAL FOUNDATIONS OF EDUCATION

Max. Marks : 100
Theory : 90 marks
Internal Assessment : 10 marks
Time : 3 Hours

GENERAL INSTRUCTIONS FOR THE PAPER-SETTER :
The question paper will consist of five units: I, II, III, IV and V. Unit I, II, III and IV will have two questions from the respective unit of the syllabus and will carry 18 marks each. Unit V will consist of eight short answer type questions which will cover the entire syllabus uniformly and will carry 18 marks. The students are required to attempt 6 short answer type questions out of 8 in Unit V which will be compulsory. The question paper should preferably carry internal division of marks for all the sub-questions of one main question. Preferably set the words limit for answer (300-350 words for Units I, II, III, IV and 75 words for each short answer question in Unit V).

INSTRUCTIONS FOR THE CANDIDATE :
The students will be required to attempt one question each from units I, II, III and IV. Unit V will be compulsory. Students are required to attempt 6 short answer type questions out of 8 in Unit V. The words limit will be 300-350 words for Unit I, II, III and IV and 75 words for short answer type question in Unit V.

Objectives :
1. To enable the students to understand the perspective roles of heredity and environment in educational development of a child.
2. To enable the students to understand the concept of personality and its place in Education.
3. To make the students familiar with the concept of Special Education; the special needs of the Gifted, Backward and Delinquent Children and their Educational implications.
4. To make the students familiar with the concepts of Emotions, Stress and Stress management among adolescents.

COURSE CONTENTS :

UNIT-I
Difference between Psychology and Educational Psychology, Significance of Educational Psychology.
Heredity and Environment – Concepts and their role in Educational development.

UNIT-II
Personality : Concept, Assessment and its Educational Implications.

UNIT-III
Special Education : Meaning and Concept.
Types of Exceptional Children with special reference to the Gifted, Backward and Delinquents (Their Characteristics and Educational Implications).
UNIT-IV

Emotions and Stress – Concept, Types of Stress (Physical, Psychological and Social), Stress Management with Special Reference to Adolescents.

Books Recommended:


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ADULT EDUCATION
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-2019
Semester –III

<table>
<thead>
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<th>Theory</th>
<th>Time</th>
<th>Practical</th>
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<tr>
<td>Marks +</td>
<td>Internal Assessment</td>
<td>3 Hours</td>
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<td>45 +</td>
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GENERAL INSTRUCTIONS FOR THE PAPER-SETTER:
The question paper will consist of five units. Unit I, II, III & IV will have 2 questions in each unit from the syllabus out of which students have a choice to attempt 1 question in each unit. Unit V is compulsory. It will consist of 3 questions and will cover the entire syllabus uniformly. Each short question in Unit V will carry 3 marks (3X3=9). All units (I, II, III & IV) are of 9 marks (9X5=45).

GENERAL INSTRUCTIONS FOR THE CANDIDATE:
The students will be required to attempt at least one question from each unit I, II, III and IV. Unit V is compulsory and it will consist of 3 questions and will cover the entire syllabus uniformly. All questions carry equal marks.

OBJECTIVES OF THE COURSE:
The main objective of the paper are:

1. To acquaint students with the psychology of adult learner and the strategies employed to motivate them.

2. To impart knowledge to students on adult characteristics and their psychology.

3. To impart knowledge on suitability of teaching – learning material and audio visual material used by new – literates, preraks and Nodal Prerakes.

4. To acquaint students with various agencies involved in adult education program.

5. To provide knowledge to students regarding concept, need, methods and procedures involved in monitoring process.

6. To impart knowledge to students on the concept, meaning, scope and significance of Adult Education.

7. To acquaint students with the knowledge, how adult education play an important role in social and economic development.
THEORY

UNIT I

(i) Characteristics of Adult and Psychology of Adult Learners involved in Adult Literacy Program.

(ii) Roll of Motivational Strategies in Adult Educational Program.

UNIT II

(i) Suitability of Teaching – Learning and Audio – Visual Material used for Neo-Literates.

(ii) Suitability of Training Material for Preraks and Nodal Preraks.

UNIT III

(i) Agencies of Adult Education: Government, Private.

(ii) Monitoring of Adult Education Program: The Paradigm Content, General Consideration, Need for Monitoring.

UNIT IV

(i) Meaning of Adult Education, its Scope, Aims and Significance.

(ii) Role of Adult Education in Social and Economic Development.

Practical/Field Work:

Max Marks : 50 Marks
External : 45 Marks
Internal : 5 Marks

Participation of the Students in the following:

1. Survey of the Area - A brief report.

2. Planning and Organization of Awareness Generating Activities for Adults.

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GENERAL INSTRUCTIONS FOR THE PAPER SETTER:

The question paper will consist of five units. Unit I, II, III & IV will have 2 questions in each unit from the syllabus out of which students have a choice to attempt 1 question in each unit. Unit V is compulsory. It will consist of 3 questions and will cover the entire syllabus uniformly. Each short question in Unit V will carry 3 marks (3X3=9). All units (I, II, III & IV) are of 9 marks (9X5=45).

GENERAL INSTRUCTIONS FOR THE CANDIDATE:

The students will be required to attempt at least one question from each unit I, II, III and IV. Unit V is compulsory and it will consist of 3 questions and will cover the entire syllabus uniformly. All questions carry equal marks.

OBJECTIVES OF THE COURSE:

The main objective of the paper are:

1. To provide an overview on History of Adult Education in India.
2. To impart knowledge to students on various Target Groups involved Under Adult Literacy Programs.
3. To expose students with the Teaching Learning Methodologies for teaching Adults.
4. To acquaint students with the Role and Responsibilities assumed by Preraks and Nodal Preraks.
5. To expose students with Concepts and Strategies involved under Total Literacy Campaign.
6. To acquaint students with the knowledge of various agencies involved in Adult Education Programs.
7. To expose students with the Preparation and Planning of Continuing Education and Awareness Generating Programs.
8. To impart knowledge to students on Linkage of Adult Education with Development.
THEORY

UNIT-I

(i) History of Adult Education in India.

(ii) Target Groups involved under Adult Education Programs.

UNIT-II

(i) Methodology of Teaching Adults in Adult Literacy Programs

(ii) Role of Preraks and Nodal Preraks in Adult Education.

UNIT-III

(i) Total Literacy Campaign : Its Concept and Strategies.

(ii) Agencies Involved under Adult Education : Government and Non-Government.

UNIT-IV

(i) Preparation and Planning of Adult Education Programs : Continuing Education and Awareness Generating Programs.

(ii) Adult Education and its Linkage with Development.

Practical/Field Work:

Max Marks : 50 Marks
External : 45 Marks
Internal : 5 Marks

Participation of the Students in the following:

1. Visits to the 5 Government and Non-Government Agencies – A brief Report in the form of file to be submitted in the practical exam.

2. Preparation of Teaching – Learning Aids used for Teaching Adults.

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MUSIC (Vocal)

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-III

General Instructions
1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.

2. There would be upto ten students in one section in practical class.

3. There should not be more than eight students in a batch for practical examination.

4. Harmonium will not be allowed as accompaniment in vocal music, but harmonium can be used while singing Alankars.

5. The candidate can take vocal music along with instrumental music.

6. The candidate can also take instrumental music with tabla.

7. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.

8. In all, nine questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.

Paper-A: THEORY (3 Hours duration) : 45 marks
(Duration 45 minutes 06 practical+ 02 Theory periods per week)

Paper-B: Practical (20 minutes duration) : 45 marks

(i) Viva : 35 marks
(ii) Harmonium : 05 marks
(iii) Tabla : 05 marks

Internal Assessment (Theory + Practical) (05 +05) : 10 marks

Total : 100 marks

PAPER-A: THEORY (Duration 45 minutes, 02 Theory periods per week)

Unit-I

1. Brief knowledge of Gram.
2. Kanth Sadhana.
3. Gharana: definition and importance
Unit–II

1. Knowledge of Alap, and its various forms.
2. Explain the following: - Upaj, Mukhda, Bol-Baant, Khatka, Murki, Kan.

Unit–III

1. Brief life sketches of the great masters of Music and their contributions.
   (i) Ustad Alladiya Khan
   (ii) Pt. Bhimsen Joshi
   (iii) Sh. Krishan Rao Shankar Pandit.

Unit–IV

1. Description and Notations of the prescribed Ragas and Talas:
   (i) To write drut khyal in any one of the prescribed ragas: -Malkauns, Bhairav with Alap and Taans
   (ii) To write prescribed ragas of the syllabus with Alap and Taans
   (iii) To write the notation of Tala: - Jhaptala, Chartala (single & double)
   (iv) To write the description of detailed and non detailed Ragas: Chandrakauns, Kalingda.

NOTE: - Both the questions from this part must contain one notation of Raga alongwith the notation of Talas/ description of Ragas.

Unit–V

1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

PAPER-B  PRACTICAL (Duration 45 Minutes, 06 practical periods per week)

1. One Drut Khayal in each of the following Ragas with Alaps and Tanas: Malkauns, Bhairav.

2. One lakshana geet/ Sargam geet in any prescribed ragas

3. Ability to play Kehrva on Tabla

4. Ability to recite following talas by hand: Tilwada, Chartala

5. Ability to play on Harmonium at least three alankaras based on Shudh swaras and sing alongwith it.

6. Ability to recognize the prescribed ragas sung by the examiner

7. Knowledge of the following Non-detailed Raga: Ability to sing Aroh, Avroh and Pakad with Tanpura: Chandrakauns, Kalingda.

8. Ability to sing one Drut khayal of your course with harmonium.
Books Recommended:


8. *Sangeet Shastra Vigyan* : Panna Lal Madan

9. *Sangeet Kala ka Itihas* : Panna Lal Madan

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MUSIC (Vocal)

SEMESTER-IV

General Instructions

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.

2. There should not be more than eight students in a batch for practical examination.

3. Harmonium will not be allowed as accompaniment in vocal music, but harmonium can be used while singing Alankars.

4. The candidate can take vocal music along with instrumental music.

5. The candidate can also take instrumental music with Tabla.

6. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.

7. In all, nine questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 02 marks each.

8. There would be upto ten students in one section in practical class

Paper-A: THEORY (3 Hours duration) : 45 marks
(Duration 45 minutes 06 practical+ 02 Theory periods per week)

Paper-B: Practical (20 minutes duration) : 45 marks
(i) Viva : 35 marks
(ii) Harmonium : 05 marks
(iii) Tabla : 05 marks

Internal Assessment (Theory + Practical) (05 +05) : 10 marks

Total : 100 marks

PAPER-A: THEORY (Duration 45 minutes, 02 Theory periods per week)

Unit-I

1. Historical development (in brief) of North Indian Music during the Medieval Period.
2. Brief knowledge of Murchhana.
3. Importance of Notation system.
Unit-II

1. Importance of Tanpura and Sahayak Nada
2. Varieties of Gamak
3. Explain the following :- Meend, Bol-Alap, andolan, boltana, Badat.

Unit-III

1. Brief life sketches of great masters of music and their contributions:
   i) Ustad Amir Khan Sahib
   ii) Ustad Faiyaz Khan Sahib
   iii) Pt. Onkar Nath Thakur

Unit-IV

1. Description and Notations of the prescribed Ragas and Talas :-
   i) To write in notation a drut khyal in any one of the prescribed Raga of the syllabus:- Bihag, Bhipmlasi
   ii) To write in notation a vilambit khyal in any prescribed raga of the syllabus.
   iii) To write the notations of Talas: Roopak, Tilwada (Single & Double)
   iv) To write the description of Ragas :- Non detailed: Maru Bihag, Dhani

NOTE: - Both the questions from this part must contain one notation of Raga alongwith the notation of Talas/ description of Ragas.

Unit-V

1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 02 marks each.

PAPER-B  PRACTICAL (Duration 45 Minutes, 06 practical periods per week)

1. One Drut Khayal in each of the following Ragas with Alaps and Tanas: Bihag, Bhipmlasi.
2. One vilambit Khayal in any of the detailed ragas prescribed in the course with extempore alaps and tanas.
3. Ability to play Ek taal on Tabla
4. Ability to recite following talas by hand: Tilwada, Roopak
5. Ability to play on Harmonium at least three Alankaras based on komal and Teevra Swaras and sing alongwith it.
6. Ability to recognize the prescribed ragas sung by the examiner
7. Knowledge of the following Non-detailed Raga: Ability to sing Aroh, Avroh and Pakad with Tanpura: Maru Bihag, Dhani
8. Ability to sing one Drut khayal of your course with harmonium
Books Recommended:


8. *Sangeet Shastra Vigyan* : Panna Lal Madan

9. *Sangeet Kala ka Itihas* : Panna Lal Madan

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B.A./B.Sc. (GENERAL) SECOND YEAR (SEMESTER SYSTEM) SYLLABUS

MUSIC (Instrumental)
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-III

General Instructions

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.

2. There would be up to ten students in one section in practical class.

3. **There should not be more than eight students in a batch for practical examination.**

4. Harmonium can be used while singing Alankars.

5. In all, nine questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.

6. In Instrumental Music, the candidates have the option to take any one of the following instruments: Sitar, Sarangi, Veena, Sarod, Dilruba, Violin, Guitar, Bansuri, Shahnai, Santoor.

7. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.

8. The candidate can take vocal music or Tabla along with instrumental music.

Paper A : THEORY (3 Hours duration) 
(Duration 45 minutes 06 practical + 02 Theory periods per week) : 45 marks

Paper-B: PRACTICAL (20 minutes duration) : 45 marks

(i) Viva : 35 marks
(ii) Harmonium : 05 marks
(iii) Tabla : 05 marks

Internal Assessment (Theory + Practical) (05 +05) : 10 marks

Total : 100 marks

PAPER-A: THEORY (Duration 45 minutes, 02 Theory periods per week)

Unit-I

1. Ghamak and its varieties.
2. Brief knowledge of Gram.
3. Gun and Dosh of Vadak.
Unit–II

1. Gharana (definition and importance)
2. Knowledge of Alap, and its various forms.
3. Knowledge of Avirbhav and Tirobhav, Alaptav- Bahutav

Unit–III

1. Brief life sketches of the great masters of Music and their contributions.
   (i) Ustad Inayat Khan
   (ii) Ustad Allaudin Khan
   (iii) Pt. Vishnu Digambar Pluskar

Unit–IV

Description and Notation of the prescribed Ragas of Syllabus: -
1. To write one Drut Gat (in any prescribed raga of your course with Toras)
2. Description and notation of Raga:- Bihag, Bhimplasi with todas
3. Notation of Ektal and Rupak tala with dugun layakaries

NOTE: - Both the questions from this part must contain one notation of Raga alongwith the notation of Talas/ description of Ragas.

Unit-V

1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

PAPER-B   PRACTICAL (Duration 45 Minutes, 06 practical periods per week)

1. One Razakhani (Drut) Gat in each of the following Ragas with Todas and Jhalas : Bihag, Bhimplasi
2. Knowledge of the following Non-detailed Raga: Ability to sing Aroh, Avroh and Pakad : Maru Bihag, Patdeep
3. Use of one swara meend and kan.
4. Ability to play teen tala on Tabla
5. Ability to sing three alankras of Shudh swaras with the help of harmonium.
6. Ability to demonstrate the following talas by hands in Ekgun and Dugun Layakaries: Ektala, Rupak
Books Recommended:

8. *Sangeet Shastra Vigyan* : Panna Lal Madan
9. *Sangeet Kala ka Itihas* : Panna Lal Madan
General Instructions:-

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.

2. There would be up to ten students in one section in practical class.

3. There should not be more than eight students in a batch for practical examination.

4. Harmonium can be used while singing Alankars.

5. In all, nine questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.

6. In Instrumental Music, the candidates have the option to take any one of the following instruments: Sitar, Sarangi, Veena, Sarod, Dilruba, Violin, Guitar, Bansuri, Shahnai, Santoor.

7. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.

8. The candidate can take vocal music or Tabla along with instrumental music.

Paper-A: THEORY (3 Hours duration) : 45 marks
(Duration 45 minutes 06 practical+ 02 Theory periods per week)

Paper-B: PRACTICAL (20 minutes duration)
(i) Viva : 35 marks
(ii) Harmonium : 05 marks
(iii) Tabla : 05 marks

Internal Assessment (Theory + Practical) (05 +05) : 10 marks

Total : 100 marks

PAPER-A: THEORY (Duration 45 minutes, 02 Theory periods per week)

Unit-I

1. Historical developments in North Indian Music during Medieval period.
2. Brief knowledge of Murchhana system
3. Classification of Indian Musical Instruments
Unit-II

1. A Study of Shuddh, Chhaya Lag and Sankiran Ragas
2. Time theory of Indian Ragas
3. Definitions and explanations of the musical terms (not more than 100 words):-
   Kampan, Meend, Ghaseet, Zamzama, Krintan

Unit–III

1. Brief life sketches of great masters of music and their contributions:
   i) Ustad Vilayat Khan
   ii) Ustad Abdul Halim Zafar Khan
   iii) Smt. Annapurna Devi Ji

Unit–IV

Description and Notation of the prescribed Raga of syllabus:
   i) To write one Maseetkhani Gat (in any prescribed raga of your course).
   ii) To write the notation of Razakhani Gat of with Toras: Raga Madhuwanti, Hamir
   iii) To write the notation of Tivra and Dhamar with dugun

NOTE: - Both the questions from this part must contain one notation of Raga along with the notation of Talas/ description of Ragas.

Unit-V

1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carrying 01 marks each.

PAPER-B PRACTICAL (Duration 45 Minutes, 06 practical periods per week)

1. One Maseetkhani Gat in any raga from your course
2. One Razakhani (Drut) Gat in each of the following Ragas with Todas and Jhalas:- Hamir, Madhuwanti.
3. One Madhya laya gat with alap and todas in any prescribed raga other than teentala.
4. Knowledge of the following Non-detailed Raga: Aroh, Avroh and Pakad : Multani, Kedar
5. Use of two swara meend and kan.
6. Ability to play Jhaptala on Tabla
7. Ability to sing three alankars of komal and teevra swaras with the help of harmonium.
8. Ability to demonstrate the following talas by hands in Ekgun and Dugun Layakaries: Tivra, Dhamar
**Books Recommended:**

8. *Sangeet Shastra Vigyan*: Panna Lal Madan
9. *Sangeet Kala ka Itihas*: Panna Lal Madan
Music (Tabla)

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-III

General Instructions:-

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. In all, nine questions will be set from the whole syllabus of Semester-III. The question paper will be divided into five units. First four units contain 02 questions each, out of which the candidates are to attempt one question from each unit, unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.
3. Harmonium/ Sarangi will be allowed to play Nagma/Lehra. No electronic Lehra machine will be allowed for practical examination.
4. Practical Paper shall be set from the syllabus for Paper-B (Practical).

Paper-A : THEORY (3 Hours duration) : 45 marks

Paper-B : PRACTICAL (20 minutes duration) : 45 marks

(i) Viva : 30 marks
(ii) Harmonium : 05 marks
(iii) Tabla (Tuning) : 05 marks
(iv) Padhant on Hand : 05 marks

Internal Assessment (Theory & Practical) (5 + 5) : 10 marks

Total : 100 marks

Paper-A : THEORY

UNIT-I

1. Origin of Tala
2. Classification of musical instruments.
3. Study of Delhi Gharana

UNIT-II

1. Elementary knowledge of the following musical terms (not more than 100 words)
   Mukhda, Tihai, Muhra, Uthan
2. Study of dus Pranas of Taal
3. Classification of Taal (Margi & Deshi)
UNIT-III

1. Life sketches and contributions of the following:-
   a. Ustad Amir Hussain Khan
   b. Ustad Bahadur Singh
   c. Abdul Latif Ahmad Khan

UNIT-IV

1. Jhaptaal, Rupak, Sultaal
2. To write the description of Taals of your course
3. To write the notation of Taal in Single, Double, Tigun & Chougun

UNIT-V

1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Paper-B: PRACTICAL

1. Proper Badhat of following Talas on Tabla Jhaptal, Sultal, Rupak
2. Improvisation of laggii in Kehrva
3. Jhaptal- Peshkar, Two Palatas, Two quaida and Two Palatas, One simple Tukra
4. Sultal – Thah, Dugun & Chaugun
5. Practical Knowledge of Khemta Taal
6. Ability to play Nagma on Harmonium in Jhaptal
7. Tuning of Tabla

Books Recommended:

1. Taal Prabhakar Prashnottari : G.C. Srivastava
2. Tabla Tarang : B.S. Nigam
3. Taal Prakash : Sangeeta Karyalaya, Hathras
4. Avanaddha Vadya : M.P. Sharma
7. Tabla Vadan Part-I : Jagmohan Sharma
8. Taal Parichay Part-I : G.C. Srivastava

Ten Books recommended other than already recommended
Aakrosh By : G.C. Srivastava
Music (Tabla)

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-IV

General Instructions:-

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.

2. In all, nine questions will be set from the whole syllabus of Semester-IV. The question paper will be divided into five units. First four units contain 02 questions each, out of which the candidates are to attempt one question from each unit, unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

3. Harmonium/ Sarangi will be allowed to play Nagma/Lehra. No electronic Lehra machine will be allowed for practical examination.

4. Practical Paper shall be set from the syllabus for Paper-B (Practical).

Paper-A : THEORY (3 Hours duration) : 45 marks

Paper-B : PRACTICAL (20 minutes duration) : 45 marks

(i) Viva : 30 marks
(ii) Harmonium : 05 marks
(iii) Tabla (Tuning) : 05 marks
(iv) Padhant on Hand : 05 marks

Internal Assessment (Theory & Practical) (5 + 5) : 10 marks

Total : 100 marks

Paper-A : THEORY

UNIT-I

1. Laya and Layakaries
2. Folk Taal instruments of Punjab.

UNIT-II

1. Elementary knowledge of the following (not more than 100 words)
   Rela, Paran, Gat, Kayda, Chakrdar Paran
2. Elementary knowledge of karnatka Taal system
3. Study of Ajarada Gharana
UNIT-III

1. Life sketches and contributions of the following:-
   a. Ustad Habibuddin Khan
   b. Ustad Natthu Khan
   c. Pt. Kanthe Maharaj

UNIT-IV

1. Tivra, Rupak, Aada-Chartaal
2. To write descriptions of Taals of your syllabus
3. To write the notation of Taal in Single, Double, Tigun, Chougun and aad

UNIT-V

1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Paper-B: PRACTICAL

1. Proper Badhat of following Talas on Tabla : Rupak, Tivra, Ada-chartaal.
2. Improvisation of laggi in Dadra
3. Rupak- Peshkar, Two Palatas, One quaida and two Paltas, One Mohra
4. Teental – Two Rela with Two Paltas, Two Charkraddar Paran, One Charkrdaar Tukra
5. Practical Knowledge of Playing above taalas with vocal & instrumental music performance
6. Ability to play Nagma on Harmonium in Rupak
7. Tuning of Tabla

Note:- It is understood that candidate must have knowledge of tala of Semester 3rd also.

Books Recommended:

1. Taal Prabhakar Prashnottari : G.C. Srivastava
2.Tabla Tarang : B.S. Nigam
3. Taal Prakash : Sangeeta Karyalaya, Hathras
4. Avanaddha Vadya : M.P. Sharma
7. Tabla Vadan Part-I : Jagmohan Sharma
8. Taal Parichay Part-I : G.C. Srivastava

Ten Books recommended other than already recommended
Aakrosh By : G.C. Srivastava

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GENERAL INSTRUCTIONS:

1. In case of the private candidates, there would be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto ten students in one section in practical class.
3. There would not be more than eight students in a batch for practical examination.
4. No electronic Instruments will be allowed for lehra in practical examination.
5. The candidate can take Dance along with Vocal music.
6. The candidate can also take instrumental music with Dance.
7. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.
8. In all, nine questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.

THEORY (Time duration 3 hours) : 45 Marks
PRACTICAL (20 minutes duration) : 45 Marks
Internal Assessment (Theory and Practical) (5+5) : 10 Marks

Paper-A: THEORY

Unit-I

1. Definition of the following:
   Kasak-Masak, Bharramri, Chari, Astooti
2. Present status of Kathak Dance.

Unit-II

1. Life Sketch of Pt. Shambhu Maharaj
2. Importance of Gayan and Vadan in Kathak Dance
3. Guru Shishya Prampra

Unit-III

1. Comparision of Classical and Folk Dance.
2. Folk Dance of Himachal.
Unit-IV

1. Theka and Bol Tatkar in Ekgun, Dugun and Chaugun layakaries of Ada Chautal, Ektaal and Teental
2. Notation of Salami, Amad, Tora and Tihai in Ada Chautal.
3. Notation of Thaat, Amad, Tora and Paran in Teental.
4. Write Nagma in Teental and Adachautaal.
5. Theka and Tatkar of Ektaal in Ekgun, Dugun and Chaugun layakaries.

Unit-V

1. The ninth question of unit v is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Paper-B : PRACTICAL

I. Ada Chautal:
   1. Theka and Tatkar with Ekgun, Dugun and Chaugun Layakaries.
   2. Salami : 1
   3. Tora : 2
   4. Amad : 1
   5. Nagma : 1
   6. Tihai : 1

II. Teentaal:
   1. Tatkar with Ekgun, Dugun and Chaugun Layakaries
   2. Thaat : 1
   3. Amad : 1
   4. Tora : 2
   5. Paran : 2
   6. Nagma : 1
   7. Ektaal:
   8. Theka
   9. Tatkar

III. One Gat of Ghunghat

IV. Padhant of above mentioned material on hand in teen taal and Ada chautaal

V. Ability of play Nagma in teentaal

VI. Theka of Ektaal in Ekgun Layakari on hand

VII. Practical Demonstration of Gidha.
General Instructions:

1. In case of private candidates, there would be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be up to ten students in one section in practical class.
3. There would not be more than eight students in a batch for practical examination.
4. No electronic instruments will be allowed for lehra in practical examination.
5. The candidate can take Dance music along with vocal music.
6. The candidate can also take instrumental music with Dance.
7. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.
8. In all, nine questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.

THEORY (Time duration 3 hours) : 45 Marks
PRACTICAL (20 minutes duration) : 45 Marks
Internal Assessment (Theory and Practical) (5+5) : 10 Marks

Paper-A: THEORY

Unit-I

1. Definition of the following:
   Gati, Paran, Tisrajali Paran, Chatusrajati Paran, Premlu.
2. Brief knowledge of Kathakali.
3. Importance of Ghungroo in Kathak Dance

Unit-II

1. Gharanas of Kathak Dance and their comparison
2. Merits and demerits of Kathak Dance
3. Contribution of Pt. Rajender Gangani ji in the field of Kathak Dance
Unit-III

1. Knowledge of thumri
2. Knowledge of Chhau Nritya.
3. Knowledge of different Instruments used in Kathak Dance.

Unit-IV

1. Notation of Theka and Bol-Tatkar in Ekgun, Dugun and chaugun layakaries in Ada chautaal, Teentaal and Ektaal.
2. Notation of Chakardar Tora Chakardar paran, Kavit, Tihai and Nagma in Teentaal.
3. Write Tihai, Thaat, Paran, Chakardar Paran, Kavit and Nagma.
4. Theka of Ektaal in Ekgun, Dugun and Chaugun layakaries with Tihai, Tora and Amad.

Unit-V

1. The ninth question of unit v is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Paper-B: PRACTICAL

I. Adachautal
   1. Tatkar with Ekgun, Dwigun and Chaugun Layakari
   2. Paran : 1
   3. Chakardary Paran : 1
   4. Thaat : 1
   5. Tihai : 1
   6. Kavit : 1

II. Teentaal
   1. Tatkar with Ekgun, Dugun, Chaugun and Athgun layakaries.
   2. Kavit : 1
   3. Chakardar Tora : 1
   4. Chakardar Paran : 1
   5. Tihai : 1
   6. Nagma : 1
   7. Ektaal
   8. Amad : 1
   9. Tora : 1
   10. Tihai : 1

III. One Gat Nikas of Mataki
IV. Padhant of above mentioned material in teen taal and Ada Chautaal on hand
V. Ability to play Nagma in Ada Chautaal
VI. Theka of Ekgun and Dwigun Layakaries of above mentioned taals.
VII. Practical Demonstration of a Bhangra steps.
FINE ARTS
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-III

Paper A : Theory (History of Art) Max. Marks : 54

TIME : 3 Hours

OBJECTIVES:
The aim of the paper is to introduce to the students various schools, styles and phases of the developments in
painting and sculpture in India and the West. The emphasis will be to make them aware of the different terms,
concepts, forms and subject matter of these works.

INSTRUCTIONS FOR PAPER SETTER AND CANDIDATES:
1. The paper carries 54 marks.
2. The paper-setter is required to set 9 questions in all. The candidate is to attempt 5 questions as per the
   instructions given in the question paper.
3. The first question shall be of short answer type containing 12 questions spread over the whole syllabus.
   Students are required to attempt 9 questions. Each question is to be answered in about 25-30 words. It
   shall carry 18 marks and shall be a Compulsory question.
4. 8 questions are to be set from the entire syllabus consisting of 4 units. Two questions will be set from
   each unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from
   each unit. So in all, the candidate shall attempt 4 questions in all out of 8 questions. Each question would
   be of 9 marks.

Unit-I : History of Indian Painting
• Western Indian Minitaure Painting -- Decorative Designs and Paintings of the 1439 Kalpasutra Manuscript.
• Pre Mughal Painting -- Chaurapanchashika and Nimat Nama Manuscript Paintings

Unit-II : History of Indian Sculpture
• Gandhara -- Fasting Buddha and Mahaparinirvana of Buddha
• Mathura -- Portraits of the Kushana Kings.
• Sarnath -- Seated Buddha.
• Sultanganj -- Bronze Buddha.

Unit-III : History of Western Art
• Early Renaissance : Masaccio - Expulsion; Holy Trinity.
• High Renaissance: Leonardo Da Vinci – Last Supper; Michelangelo—Creation of Adam from the Sistine
  ceiling; Pieta.
• Northern Renaissance : Durer – Knight, Death and the Devil.

Unit-IV : Definition of Key Terms and General Concepts
• Composition – Volume, Texture, Space, Unity, Harmony, Rhythm, Proportion.
• Six Limbs of Indian Painting.

Pedagogy : The students are expected to familiarize themselves with the art forms as seen from the books,
slides and related films. Visits to Museums, exhibitions and art galleries are a part of study.
Suggested Readings:


Paper–B: PRACTICAL

This paper consists of three sections:

<table>
<thead>
<tr>
<th>Section</th>
<th>Max. Marks</th>
<th>Max. Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Landscape Painting (on the spot)</td>
<td>30</td>
<td>5 hours</td>
</tr>
<tr>
<td>2. Life Sketching</td>
<td>30</td>
<td>5 hours</td>
</tr>
<tr>
<td>3. Poster &amp; Book Cover Design or Clay Modelling</td>
<td>30</td>
<td>5 hours</td>
</tr>
</tbody>
</table>

Total: 90 marks

Note: The paper-setter is required to set papers in all three options in Section-3.

SECTION-I: LANDSCAPE PAINTING (on the spot)

LANDSCAPE PAINTING: To study relationships of objects, their arrangements in the foreground, middle distance and distance, texture, relative size of masses, tones and colours, use of linear and aerial perspective.

Medium: Oil, Water or Pastel colours. Size: ½ Imperial.

SECTION-II: LIFE SKETCHING

LIFE SKETCHING: From live Model or Cast-Monochrome in any medium, ½ Imperial Sheet.

Emphasis should be on structure, proportion, foreshortening, textural values, posture and individuality of the model.
SECTION-III : POSTER & BOOK COVER DESIGN OR CLAY MODELLING

POSTER :
Commercial and advertising designing.
Understanding of Colour harmony and contrast.
Imparting understanding of Printing purposes.

BOOK COVER DESIGN :

Concept of Lettering : Block lettering, Roman lettering, Script lettering and free hand brush lettering.
To design book cover with illustration and title, author’s name etc. in three colours (excluding the background colour)

OR

CLAY MODELLING :
To render animal or human forms in clay in relief. Minimum number of three forms to be composed. Size of slab minimum 30 cms × 25 cms. Creative Pottery—Creative Pot making in clay—any size.

SESSIONAL MARKS : 50 (based on work related equally to 3 sections).
Sessional Marks will be given on the basis of the work done during the session, in all the 3 sections. At least three works will be submitted in each section. Sessional marks shall be given by external and internal examiners jointly. In case of difference of opinion, marking may be done separately by each examiner giving marks out of 50 % of the aggregate of the Sessional Marks.

NOTE :
1. Choice of option to be offered would depend on the facility available in each Institution concerned.
2. Minimum of 9 hours’ teaching per week be assigned to the subjects and out of nine hours, six hours be earmarked for practical classes and three hours for theory classes (per week).
FINE ARTS

SEMMESTER-IV

Paper A : Theory (History of Art) Max. Marks : 54
Time : 3 Hours

Objectives:
The aim of the paper is to introduce to the students various schools, styles and phases of the developments in painting and sculpture in India and the West. The emphasis will be to make them aware of the different terms, concepts, forms and subject matter of these works.

INSTRUCTIONS FOR PAPER SETTER AND CANDIDATES:
1. The paper carries 54 marks.
2. The paper-setter is required to set 9 questions in all. The candidate is to attempt 5 questions as per the instructions given in the question paper.
3. The first question shall be of short answer type containing 12 questions spread over the whole syllabus. Students are required to attempt 9 questions. Each question is to be answered in about 25-30 words. It shall carry 18 marks and shall be a Compulsory question.
4. 8 questions are to be set from the entire syllabus consisting of 4 units. Two questions will be set from each unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each unit. So in all, the candidate shall attempt 4 questions in all out of 8 questions. Each question would be of 9 marks.

Unit-I : History of Indian Painting
- Mughal Paintings of Hamza-Nama ; South Kensington Akbar Nama ; Jahangiri Portraits and illustrations of birds and animals.
- Deccani Paintings –Tarif-i-Hussain-Shahi from Ahmednagar ; Najam-ul-Ulum from Bijapur.

Unit-II : History of Indian Sculpture
- Deogarh –Vishnu Anantashayana.
- Ellora—Ravana Shaking Mount Kailasha.
- Mahabalipuram –Descent of Ganges (Kiratarjuniyam panel).

Unit-III : History of Western Art
- Baroque : Rubens –Garden of Love.
- Neo-Classicism and Romanticism : David –The Death of Socrates; Constable-The Haywain.
- Realism : Courbet –Artist’s Studio.

Unit-IV : Definition of Key Terms and General Concepts
- Art and Craft ; Design ; Mosaic ; Tribal Art ; Folk Art ; Piece-mould ; Waste-mould.

Pedagogy: The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films. Visits to Museums, exhibitions and art galleries are a part of study.
Suggested Readings :


Paper–B : PRACTICAL

This paper consists of three sections :

<table>
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<td>Poster &amp; Book Cover Design or Clay Modelling</td>
<td>30</td>
<td>5 hours</td>
</tr>
</tbody>
</table>

Total : 90 marks

Note : The paper-setter is required to set papers in all three options in Section-3.

SECTION-I : LANDSCAPE PAINTING (on the spot)

LANDSCAPE PAINTING : To study relationships of objects, their arrangements in the foreground, middle distance and distance, texture, relative size of masses, tones and colours, use of linear and aerial perspective.

Medium : Oil, Water or Pastel colours.

Size : ½ Imperial.

SECTION-II : LIFE SKETCHING

LIFE SKETCHING : From live Model or Cast-Monochrome in any medium, ½ Imperial Sheet.

Emphasis should be on structure, proportion, foreshortening, textural values, posture and individuality of the model.
SECTION-III : POSTER & BOOK COVER DESIGN OR CLAY MODELLING

POSTER :
Commercial and advertising designing.
Understanding of Colour harmony and contrast.
Imparting understanding of Printing purposes.

BOOK COVER DESIGN :
Concept of Lettering : Block lettering, Roman lettering, Script lettering and free hand brush lettering.
To design book cover with illustration and title, author’s name etc. in three colours (excluding the background colour)

OR

CLAY MODELLING :
To render animal or human forms in clay in relief. Minimum number of three forms to be composed. Size of slab minimum 30 cms × 25 cms. Creative Pottery—Creative Pot making in clay—any size.

SESSIONAL MARKS : 50 (based on work related equally to 3 sections).
Sessional Marks will be given on the basis of the work done during the session, in all the 3 sections. At least three works will be submitted in each section. Sessional marks shall be given by external and internal examiners jointly. In case of difference of opinion, marking may be done separately by each examiner giving marks out of 50 % of the aggregate of the Sessional Marks.

NOTE :
1. Choice of option to be offered would depend on the facility available in each Institution concerned.
2. Minimum of 9 hours’ teaching per week be assigned to the subjects and out of nine hours, six hours be earmarked for practical classes and three hours for theory classes (per week).
HISTORY OF ART

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-III

Max. Marks : 100
Time: 3 Hours

Note:

1. Each paper Carries 100 marks.
2. The paper-setter is required to set 9 questions in all. The candidate is to attempt 5 questions as per the instructions given in the question paper.
3. The first question shall be of short answer type containing 14 questions spread over the whole syllabus. Each question is to be answered in about 25 to 30 words. It shall carry 28 marks and shall be a Compulsory question.
4. 8 questions are to be set from the entire syllabus consisting of 4 units. Two questions will be set from each unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each unit. So in all, the candidate shall attempt 4 questions in all out of 8 questions. Each question would be of 18 marks.

HISTORY OF INDIAN PAINTING (from ca. 9th century to ca. 1800 A.D.) AND SCULPTURE (from ca. 4th century A.D. to ca. 6th century A.D.)

Objectives:

The aim of the paper is to introduce to the students various schools, styles and phases of the developments in painting and sculpture in India. The emphasis will be to make them aware of the different terms, concepts, forms and subject matter of these works.

Unit-I

Development of Miniature Painting : 
(a) Eastern Indian.
(b) Western Indian.

Unit-II

Painting under the Mughals :
(a) Akbar.
(b) Jahangir.
(c) Shahjahan.

Unit-III

Indian Miniature Painting :
(a) Rajasthani Schools—Mewar, Bundi, Kishangarh.
(b) Pahari Schools—Basohli, Guler, Kangra.
Unit-IV

**Indian Sculpture in the Classical Phase** :

Sculpture under the Guptas – Mathura, Sarnath, Deogarh, Ajanta.

**Pedagogy** :

The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films.

**Suggested Readings**:


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HISTORY OF ART

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-IV

Max. Marks : 100
Time: 3 Hours

Note:

1. Each paper Carries 100 marks.
2. The paper-setter is required to set 9 questions in all. The candidate is to attempt 5 questions as per the instructions given in the question paper.
3. The first question shall be of short answer type containing 14 questions spread over the whole syllabus. Each question is to be answered in about 25 to 30 words. It shall carry 28 marks and shall be a Compulsory question.
4. 8 questions are to be set from the entire syllabus consisting of 4 units. Two questions will be set from each unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each unit. So in all, the candidate shall attempt 4 questions in all out of 8 questions. Each question would be of 18 marks.

HISTORY OF EUROPEAN PAINTING AND SCULPTURE (from 1300 A.D. to ca. 1850 A.D.) and THEORY AND PRINCIPLES OF ART APPRECIATION

Objectives:
The aim of the paper is to introduce to the students various schools, styles and phases of the developments in painting and sculpture in the West. The emphasis will be to make them aware of the different terms, concepts, forms and subject matter of these works.

Unit-I : History of European Painting and Sculpture
(a) Early Renaissance–Masaccio, Donatello.
(b) High Renaissance–Lenoardo Da Vinci, Michelangelo, Raphael, Titian.

Unit-II: Baroque Period
Caravaggio, Rubens, Rembrandt, Bernini, Claude Lorrain.

Unit-III:
(b) Realism–Courbet.

Unit-IV : Theory and Principles of Art Appreciation
(a) Definition of the term Miniature Painting
(b) Six limbs of Indian Painting (Shadanga) and their manifestations in actual works.
(c) Indian concept of primary colours and their symbolic meaning.
(d) Indian theory of Rasa, Bhava and Beauty.
Pedagogy:
The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films.

Suggested Readings:

B.A./B.Sc. (GENERAL) SECOND YEAR (SEMESTER SYSTEM ) SYLLABUS

ANCIENT INDIAN HISTORY, CULTURE & ARCHAEOLOGY

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-III

Paper-III : HISTORY AND CULTURE OF INDIA FROM 320 A.D. TO 650 A.D.

Objectives :

The main objective of this paper is to make students do a detailed study of the political history and cultural development starting from the Gupta period till the death of Harsha.

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

1. The theory question paper will be of 90 marks and 10 marks will be for internal assessment.

2. For Private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

   The paper-setter must put note (2) in the question paper.

3. The paper-setter is required to set 9 questions in all. All questions shall carry equal marks. The paper shall be of 3 hrs. duration.

4. The first question shall be of short answer type containing 15 short questions spread over the entire syllabus. The candidate is required to answer any 9 short answer type questions. Each short answer type question shall be of 2 marks OR a question on map. The map work shall consist of 12 marks for the map and 06 marks for the explanatory notes.

5. The map question shall have the following topics :
   (a) Extent of Chandragupta II’s empire.
   (b) Extent of Harsha’s empire.
   (c) Distribution of monuments of the Gupta-Vakataka period.

6. The rest of the paper shall contain 4 Units. The entire syllabus has been divided into 4 Units. The paper-setter shall set 2 questions from each unit and the candidate shall be given internal choice i.e. the candidate shall attempt one question from each unit. Each question shall carry 18 marks.

UNIT-I

1. (a) Political condition of Northern India on the eve of the rise of the Guptas.
   (b) Foundation of the Gupta Empire.

2. The Imperial Gupta rulers.
UNIT-II
1. Decline of the Gupta Empire.
2. The Gupta Administration.
3. Cultural and Economic Achievements during the Gupta period.

UNIT-III
1. The Vakatakas of the Deccan.
2. The Huna Invasions and their impact.

UNIT-IV
1. The Aulikaras of Daspura, the Maukharis and the Later Guptas, Pallavas and Chalukyas of Badami, Vatapi.
2. The Pushyabhutis of Thanesar : Political and Cultural survey.

Pedagogy of the Course Work :
The students are expected to have an idea of the original sources for the reconstruction of the history of the period. Maps and transparencies should be put to use for better understanding by the students.

Essential Readings :

ANCIENT INDIAN HISTORY, CULTURE & ARCHAEOLOGY
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-IV

Paper-IV : HISTORY AND CULTURE OF INDIA FROM 650 A.D. TO 1200 A.D.

Objectives:
The primary objective of this paper is to acquaint the students about the political development in India after the death of Harsha. A detailed study of the various dynasties ruling in the different parts of our country will be made.

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES:
1. The theory question paper will be of 90 marks and 10 marks will be for internal assessment.
2. For Private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

   The paper-setter must put note (2) in the question paper.
3. The paper-setter is required to set 9 questions in all. All questions shall carry equal marks. The paper shall be of 3 hrs. duration.
4. The first question shall be of short answer type containing 15 short questions spread over the entire syllabus. The candidate is required to answer any 9 short answer type questions. Each short answer type question shall be of 2 marks OR A question on map. The map work shall consist of 12 marks for the map and 06 marks for the explanatory notes.
5. The map question shall have the following topics:
   (a) Extent of Pratihara Empire.
   (b) Distribution of Temples—Lingaraja, Konark, Jagannath, Kandariya Mahadev, Parsvanath, Lakshman, Osian, Mahabalipuram.
   (c) Important Centres of Education—Nalanda, Ujjain, Pushpagiri, Nagarjunakonda.
6. The rest of the paper shall contain 4 Units. The entire syllabus has been divided into 4 Units. The paper-setter shall set 2 questions from each unit and the candidate shall be given internal choice i.e. the candidate shall attempt one question from each unit. Each question shall carry 18 marks.

UNIT-I:
1. Pratiharas
2. Palas

UNIT-II:
1. Paramaras
2. Chahamanas
UNIT-III :
1. Gahadavalas
2. Chandellas

UNIT-IV :
1. Rashtrakutas
2. Cholas.

Pedagogy of the Course Work :
The students should be given an outline of the original sources that help to reconstruct the political history of the dynasties and the kings. Slides and transparencies should be used in the class room lectures.

Essential Readings :


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DEFENCE & STRATEGIC STUDIES
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-III

INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS

Note: 1. There will be one-theory paper of 70 marks. The internal assessment will be of 10 marks. The theory paper will have one compulsory short answer type question containing 15 questions of 2 marks each covering the entire syllabus. The candidates will be required to attempt any 10 short answer type questions. In addition to it there will be four sections of the question paper containing 2 questions each. The candidate will be required to attempt one question from each of the four sections. Theory paper will be of three hours duration.

2. Practical examination will be compulsory for regular and correspondence students. It will be of 20 marks. There will be 3 hours of teaching per week for practical and the number of students in one group shall not ordinarily exceed fifteen.

Paper: EVOLUTION OF WARFARE IN INDIA

Objective:
This paper deals with the salient features of Indian warfare with emphasis on Military Organization, Battle techniques and Leadership.

SECTION-I
1. Battle of Hydaspes and Alexander’s Art of War.
2. Kautilya’s Philosophy of War.

SECTION-II
3. Military Organizations and Battle Techniques of Rajputs and Turks with particular reference to Battle of Tarain, 1192 A.D.
4. Military Organizations and Battle Techniques of Mughals and Afghans with particular reference to First Battle of Panipat, 1526 A.D.

SECTION-III
5. Battle techniques of Southern Muslim Sultans with particular reference to Battle of Talikota, 1565 A.D.
SECTION-IV

1. Military organization and Battle Techniques of Sikh Army under Maharaja Ranjit Singh.
2. Warfare under East India Company with particular reference to Battle of Assaye 1803 A.D. and Chilianwala 1849 A.D.
3. Indian Armed Forces 1858 to 1947: General Evolution and Development (A Broad Perspective).

Books Recommended:


Paper: **PRACTICAL**

Max. Marks : 20
Time: 1 hrs

Note:

1. There will be of 3 hours of teaching per week for practical. For practical classes, the number of students in one group shall not ordinarily exceed fifteen.
2. Practical exercise should be carried out on drawing sheets with explanatory notes or on computer.
SECTION-A Practical Test

Note:

1. There will be three questions in all carrying five marks each and candidates will be required to attempt any two questions.

2. Examiners are required to set the question paper at least half an hour before the examination.

Course contents for practical

1. Bearing: Definition, Types and Inter conversion of Bearing in detail.

2. Liquid Prismatic Compass: Features and Functions of its various parts.

3. Determination of Individual Compass Error

SECTION-B

1. Practical Record

2. Viva Voce
INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS

Note:
1. There will be one-theory paper of 70 marks. The internal assessment will be of 10 marks. The theory paper will have one compulsory short answer type question containing 15 questions of 2 marks each covering the entire syllabus. The candidates will be required to attempt any 10 short answer type questions. In addition to it there will be four sections of the question paper containing 2 questions each. The candidate will be required to attempt one question form each of the four sections. Theory paper will be of three hours duration.

2. Practical examination will be compulsory for regular and correspondence students. It will be of 20 marks. There will be 3 hours of teaching per week for practical and the number of students in one group shall not ordinarily exceed fifteen.

Paper: EVOLUTION OF WARFARE

M. Marks: 70
Time: 3 Hours

SECTION-I

1. Military Organizations and Battle techniques of Macedonians and Persians with particular reference to Battles of Arbella, 331 B.C.
2. Military Organization and Battle Technique of Romans and Carthagenians with particular reference to the Battles of Cannae, 216 B.C.
3. Military Organizations and Battle Techniques of Barbarians with particular reference to Battle of Adrianople, 378 A.D.

SECTION-II

4. Military Organizations and Battle Techniques of the English and French with reference to the Battle of Hastings, 1066 A.D.
5. The Mongol Art of War under Changez Khan and his successors.

SECTION-III


SECTION-IV

8. Naval Warfare with particular reference to the Battle of Trafalgar, 1805.
Books Recommended:

4. Fuller, JFC, Conduct of War, Eyre & Spottiswoode (Publisher) Ltd., Great Britain, 1962.
5. Fuller, JFC, Machine Warfare, the Infantry Journal, University of Michigan, 1943.

Paper: PRACTICAL

Max. Marks: 20
Time: 1 hrs

Note:

1. There will be 3 hours of teaching per week for practical. For practical classes, the number of students in one group shall not ordinarily exceed fifteen.
2. Practical exercise should be carried out on drawing sheets with explanatory notes or on computer.

SECTION –A : Practical Test

Note:

1. There will be three questions in all carrying five marks each and candidates will be required to attempt any two questions.
2. Examiners are required to set the question paper at least half an hour before the examination.

Course contents for practical

1. Setting of Map: With Compass and without Compass.
2. Marching by Compass: To set the Compas in a particular direction for Night March.
3. Finding position on the Maps: Determine One’s and Enemy’s position on the Map by Resection and Intersection method.

SECTION-B

Marks: 10

1. Practical Record Marks: 5
2. Viva-Voce Marks: 5

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INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES:

(i) *The syllabus has been divided into four units.*
   There shall be 9 questions in all. The first question is *compulsory* and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each unit shall have two essay type questions, and the candidate shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.

(ii) One question from Unit IV shall be set on the map.

(iii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

   **The paper-setter must put note (iii) in the question paper.**

Explanation:

1. Each essay type question would cover about one-third to one half of a topic detailed in the syllabus.

2. The distribution of marks for the map question would be as under:
   - **Map** : 10 marks
   - **Explanatory Note** : 08 marks

   **Note:** In case, a paper setter chooses to set a question on important historical places, the paper-setter will be required to ask the students to mark 10 places on map of 1 mark each and write explanatory note on any four of 2 marks each.

3. The paper-setter would avoid repetition between different types of questions within one question paper.

Paper: HISTORY OF INDIA, 1750-1964 A.D.

| Max. Marks | 100 |
| Theory     | 90 Marks |
| Internal Assessment | 10 Marks |
| Time       | 3 Hours |

**Objectives:** To introduce the students to the broad developments in the history of India in Modern times.

**Pedagogy:** Lectures, library work and discussions.
Unit-I

1. Foundation of British Rule: Circumstances leading to the battles of Plassey and Buxar and their significance; Reforms of Warren Hastings.
3. The Uprising of 1857: Political, socio-religious, economic and immediate causes; failure; results.

Unit-II

4. Economic Changes: British Agrarian policies and commercialization of agriculture; rural indebtedness; Growth of modern industry; theory of economic drain.
5. Socio-Religious Reform Movements: Brahmo Samaj; Aligarh Movement; Arya Samaj; Ramakrishna Mission.

Unit-III

8. Indian National Movement: Circumstances leading to the non-cooperation movement 1920-1922; the Civil Disobedience Movement.
9. Rise of Communal Politics: Factors responsible for the growth of communal politics; Separate electorate; Muslim League and Pakistan Resolution.

Unit-IV

12. Map:
   (a) Important Historical Places – Delhi, Calcutta, Madras, Bombay, Goa, Surat, Plassey, Buxar, Gwalior, Jhansi, Hyderabad, Sabarmati, Amritsar, Lucknow, Lahore and Aligarh.
   (b) Extent of the British Empire in 1856.
   (c) Republic of India in 1950.

Books Recommended:

2. Bandyopadhyay, Sekhar, From Plassey to Partition: A History of Modern India, Delhi: Orient Black Swan, 2007 (Also available in Hindi Medium).
7. Gopal, S, (Pbi)
HISTORY
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-2019
SEMESTER-IV

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES:

(i) The syllabus has been divided into four units.
    There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each unit shall have two essay type questions, and the candidate shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.

(ii) One question from Unit IV shall be set on the map.

(iii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (iii) in the question paper.

Explanation:

1. Each essay type question would cover about one-third to one half of a topic detailed in the syllabus.

2. The distribution of marks for the map question would be as under:
   - Map : 10 marks
   - Explanatory Note : 08 marks

Note: In case, a paper setter chooses to set a question on important historical places, the paper setter will be required to ask the students to mark 10 places on map of 1 mark each and write explanatory note on any four of 2 marks each.

3. The paper-setter would avoid repetition between different types of questions within one question paper.

Paper : HISTORY OF THE PUNJAB, 1469-1849 A.D.
Max. Marks : 100
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 Hours

Objectives: To introduce the students to the broad developments in the history of the Punjab from the mid 15th to the mid 19th century i.e. the medieval period

Pedagogy: Lectures, library work and discussions.
Unit-I
1. Teachings of Guru Nanak, Development of Sikh Institutions: langar, manji, masand, gurdwara
2. Compilation of the Adi Granth; causes and significance of the martyrdom of Guru Arjan Dev.

Unit-II
4. Circumstances leading to the creation of Khalsa and its significance; the new injunctions and symbols of the Khalsa.
5. Establishment of independent rule under Banda Bahadur; socio-economic transformation.
6. Role of Rakhi, Gurmata and Dal Khalsa in 18th century polity; emergence of autonomous chiefs.

Unit-III
7. Unification under Ranjit Singh; expansion of the Kingdom of Lahore
8. Civil & Provincial administration; Land Revenue system under Maharaja Ranjit Singh
9. Social Structure in the early 19th century Punjab

Unit-IV
10. Anglo-Sikh relations upto 1839; political developments 1839-1849.
11. First Anglo-Sikh war; second Anglo-Sikh war and the annexation of the Punjab.
12. Map:
   (a) Important Historical Places – Amritsar, Goidwal, Anandpur Sahib, Chamkaur Sahib, Kiratpur, Kartarpur, Paonta Sahib, Sirhind, Muktsar, Tarn Taran, Lahore, Machhiwara, Ropar, Multan and Peshawar.
   (b) Battles of Banda Bahadur. (location)
   (c) Kingdom of Lahore (Boundaries)

Note: In case, a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 10 places on map of 1 mark each and write explanatory note on any four of 2 marks each.

Books Recommended:

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POLITICAL SCIENCE
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-III

INDIAN GOVERNMENT AND POLITICS

Max. Marks : 100
Theory : 90 marks
Internal Assessment : 10 marks
Time : 3 hours

Objectives: This paper provides students with a basic knowledge of the fundamental elements and institutions of government, politics and processes in India at both the centre and state levels.

GENERAL INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

(i) The syllabus has been divided into four units :
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 10-20 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each unit shall have two essay type questions, and the candidate shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.

(ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

Unit-I
1. Basic Features of Indian Constitution.
2. Preamble and its perceptions.
3. Indian Federalism- Meaning & its features.
4. Centre State Relations (Legislative, Administrative & Financial)

Unit-II
1. Fundamental Rights (Art14-Art 32)- Meaning, Explanation, Criticism & Importance.
2. Fundamental Duties- Meaning, Explanation, Evaluation (Criticism & Importance).

Unit-III
1. President : Election, powers, position and changing role.
2. Parliament : Composition, powers and role.
3. Cabinet –
   a) Parliamentary features
   b) Prime Minister : Election, powers, position and changing role.
4. Supreme Court : Composition, powers & Judicial Review.

Unit-IV
1. Governor : Appointment, powers and role.
2. State Legislature : Composition, powers and role of Legislative Assembly/Vidhan Sabha.
3. Council of Ministers and Chief Minister : Election, powers, position and role.
4. High Court : Composition, powers and its role.
Books Recommended:


POLITICAL SCIENCE
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMMESTER-IV

INDIAN POLITICS

Max. Marks : 100
Theory : 90 marks
Internal Assessment : 10 marks
Time : 3 Hours.

Objectives :
The aim of this paper is to enrich the student’s understanding of the working of the Indian political system with reference to political parties, the party system, elections and voting behaviour. Units III and IV of the paper examine in detail certain key issues and debates in contemporary India.

GENERAL INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

(i) The syllabus has been divided into four units :
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 10-20 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each unit shall have two essay type questions, and the candidate shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.

(ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

Unit-I

2. National Political Parties [Indian National Congress, BJP, CPI, CPI(M), BSP] : Ideology, Policy and Programmes
3. Regional Political Parties (SAD, DMK, AIKDMK) : Ideology, Policy and Programmes.

Unit-II

1. The Election Commission : A critical evaluation and electoral reforms in India.
2. Pressure Groups in Indian Politics- Types & Role
Unit-III

1. Emerging Trends in Indian Politics.
2. Role of Caste, Religion in Indian Politics.
3. Regionalism in Indian Politics- its causes & impact.

Unit-IV

1. Basic principles and determinants of Indian Foreign Policy.
3. Non-alignment Movement- its Relevance.

Books Recommended:


ECONOMICS

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-III

Paper : PUBLIC FINANCE AND INTERNATIONAL ECONOMICS

Max. Marks                      :    100
Theory                             :    90 marks
Internal Assessment        :    10 marks
Time                                :    3 Hours

Course Objective  : The primary course objective is to introduce the students to the basics of public finance and international trade. The first two units aim to introduce students to the primary functions of government to generate resources from the people and to spend money improving their lives. The last two units are concerned with basic theories of international trade and commercial policies, balance of payments, determination of exchange rates and role of international financial institutions.

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

(i) The syllabus has been divided into four units.

There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 12 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each unit shall have two essay type questions, and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.

(ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

Unit-I


Taxation : Classification and Canons, Characteristics of a Good Tax System.

Unit-II

Incidence and Impact of Taxation : Demand and Supply Theory.

Taxable Capacity : Absolute and Relative Capacity, Determinants of Taxable Capacity.

Public Debt : Its types and Role, Burden of debt and Methods of its Redemption.

Deficit Financing : Objectives and Limitations.
Unit-III


*Terms of Trade*: Concept and Types


Unit-IV

*Balance of Payments*: Meaning, Concept and Components of Balance of Payments. Disequilibrium in the Balance of Payments: Causes and Measures to correct the disequilibrium


*IMF and IBRD*: Objectives, Working and Achievements.

**Recommended Readings**: 


**Supplementary Reading**: 


ECONOMICS

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

Semester-IV

Paper : QUANTITATIVE METHODS

Max. Marks : 100
Theory : 90 marks
Internal Assessment : 10 marks
Time : 3 Hours

Course Objective :

The objective of the course is to train the students in the use of basic mathematical and statistical tools in analyzing various economic phenomena. It deals with the design of how data is presented, the analysis of the data, and the drawing of conclusions from the data. The course aims to improve decision-making accuracy of the students and enabling them to test new ideas.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES:
The syllabus has been divided into four units.
1. There shall be 9 questions in all. All questions carry equal marks. The first question shall be short answer type containing 12 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 09 short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be compulsory question. Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all.

2. Use of simple calculator is allowed.
3. The paper setter may in general stick to the distribution of marks of 1/3 to theory and 2/3 to numericals.

Unit-I

Elementary Idea of Sets and Functions : Simple and Partial Derivatives, Differentiation of Simple functions – Polynomial (x) and Exponential functions. Maxima and Minima of functions of one variable only. Their Applications of Micro and Macro Economics.

Unit-II

Matrices : Definition and Types, Operations (Sum, Difference, Product and Transpose), Adjoint and Inverse of a matrix (upto 3 × 3), Solution of Equations (upto 3) by Matrix Methods and Crammer’s rule.
Measures of Central Tendency : Mean, Median, Partition Values, Mode, Measures of Dispersion, Skewness.

Unit-III

Correlation Analysis—Karl Pearson’s (except grouped data) and Spearman’s formula, Simple Regression Analysis.
Interpolation – Binomial, Expansion, Newton’s (Advancing Difference Method) and Lagrange’s Method.

Unit-IV

Index Numbers : Concepts, Problems and Importance, Simple Index Number, Lespeyre’s and Fisher’s Index Numbers only (among weighted index numbers), Reversibility Tests.
Books Recommended


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SOCIETY

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-III

SOCIAL STRUCTURE AND SOCIAL CHANGE

Max. Marks : 100
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 Hours

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

(i) For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt 9 short answer type questions out of 12 i.e. 9 x 2 = 18 marks.

In addition to it, Question Nos. II to IX will consist of long answer (essay type) questions, two questions from each unit with internal choice carrying 18 marks each i.e. 4 x 18 = 72 marks.

(ii) On an average, 15 hours are to be devoted for each unit.

(iii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (iii) in the question paper.

Objective :
This paper basically introduces students both to conceptual and some theoretical understanding of social structure and social change. Students are introduced to characteristics and elements of social structure and to understand the meaning, process and factors of social change.

Course Content

Unit-I


Unit-II

Social Change : Meaning and Features.
Types of Social Change : Evolution (Comte), Revolution (Marx), Development – Changing Connotations.

Unit-III

Factors of Social Change : Economic, Demographic, Education, Legislative, Scientific and Technological

Unit-IV

Essential Readings:


Further Readings:

8. Kuppu (Swamy, B, 2001) : Social Change in India, Delhi, Konark

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SOCIOLOGY

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER IV

SOCIAL INSTITUTIONS

Max. Marks : 100
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 Hours

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

(i) For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt 9 short answer type questions out of 12 i.e. $9 \times 2 = 18$ marks.

In addition to it, Question Nos. II to IX will consist of long answer (essay type) questions, two questions from each unit with internal choice carrying 18 marks each i.e. $4 \times 18 = 72$ marks.

(ii) On an average, 15 hours are to be devoted for each unit.

(iii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (iii) in the question paper.

Objective:

In this paper, social institution as a concept is introduced to the students. Study of various institutions which are foundations of human society, will help students to look at society in an objective and analytical way.

Course Work

Unit-I

Institutions – Meaning, Features; Normative and Relational aspects of Institutions.
Types – Social, Political, Economic and Cultural.
Difference of Institutions with Society Community and Association

Unit-II

Social Institutions :
Marriage –Types : Monogamy and Polygamy; Rules of Mate Selection, Contemporary Trends.
Family – Meaning, Types, Structure, Function; Development Cycle and Changing Trends.
Kinship – Meaning, Significance and a Brief Understanding of Incest, Consanguinity, Affinity, Clan, Lineage, Contemporary Trends.

Unit-III

Political Institutions – State, Government and Political Parties – Features and Functions.
Economic Institutions – Features and Functions, Property, Division of Labour (Emile Durkheim).
Unit-IV

Cultural Institutions – Religion: Meaning elements, Types, Functions (Emile Durkheim & Max Weber), Dysfunctions

Essential Readings:


Further Readings:


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PUBLIC ADMINISTRATION

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER – III

PAPER : PERSONNEL ADMINISTRATION (WITH SPECIAL REFERENCE TO INDIA)

Max. Marks : 100
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 Hours

Objective of the Paper :

The objective of this paper is to give the student an in-depth understanding of various aspects of public personnel administration particularly recruitment, training and promotion. Contemporary issues like grievance redressal machinery, corruption, morale etc. concerning administration of human resources in government will also be examined.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES :

For Private/University School of Open Learning (USOL) students who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put note in question paper in this regard.

The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

Unit-I

Personnel Administration – Meaning and Significance.
Bureaucracy: Meaning, Characteristics, Demerits and Remedies.
Civil Service: Meaning, Features and Role.
Position and Rank Classification Systems: Significance and Features

Unit-II

Recruitment: Meaning, Methods and Problems.
Recruitment System of Higher Civil Services in India.
UPSC: Composition, Functions and Role.
SPSC: Composition, Functions and Role.

Unit-III

Training – Meaning, Types, Methods, Training of Higher Civil Services in India.
Conduct, Discipline and Ethics in Public Services.
Promotion: Meaning, Significance and Principles.
Unit-IV

Morale, Causes of Low Morale and Measures for Improvement.
Corruption in Administration - Causes and Remedies.
Administrative Tribunals: Meaning, Types, Advantages and Disadvantages.

**Essential Readings:**


**Further Readings:**


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The objective of this paper is to give the student an in-depth understanding of various aspects of financial administration like budgeting, auditing, centre-state financial relations etc. It would also make them aware of: institutions like ministry of finance, union finance commission, parliamentary committees; and concepts like direct taxes, indirect taxes, deficit financing, public debt.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES

- For Private/University School of Open Learning (USOL) students, who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put a note in question paper in this regard.

- The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

Unit-I

- Financial Administration: Meaning and Significance.
- Aspects of Public Finance.
- Budget: Meaning, Types and Principles.
- Budget: Preparation and Enactment.

Unit-II

- Union Ministry of Finance: Organisation, Functions and Role.
- Centre-State Financial Relations.
- Union Finance Commission: Composition and Functions.

Unit-III

- Audit: Concept, Objectives and Types.
- Comptroller and Auditor General of India (CAGI): Appointment, Functions and Role.
Unit-IV

Legislative Control over Finance.
Public Accounts Committee: Composition, Functions and Role.
Estimates Committee: Composition, Functions and Role.

Essential Readings


Further Readings


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PHILOSOPHY

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
Outlines of tests, syllabi and courses of reading
SEMESTER-III

Paper : INDIAN ETHICS (Theory)

| Max. Marks | 100 |
| Theory     | 90 Marks |
| Internal Assessment | 10 Marks |
| Time       | 3 Hours |
| Lectures   | 75 |

Aims and Objectives :
This paper highlights the ethical philosophies propounded in the different Indian Philosophical Systems. It exposes the students to the main tenets of Buddhism, Sikhism, Gandhism, Gita and Vedic Culture. This paper gives an insight into the nature of Ethics, moral notions and basic moral theories as propounded by Western Ethical Philosophers. This paper also deals with problems of applied ethics.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :
(i) *The syllabus has been divided into four units.*
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each unit shall have two essay type questions, and the candidate shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.
(ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (ii) in the question paper.

Unit-I

1. Salient Features of Indian Ethics with reference to Purusartha : Yuga Dharma and Sanatan Dharma.
3. Concept of Sreyas and Preyas.

Unit-II

Unit-III


Unit-IV

9. Yoga and Stress Management : Definition of Yoga, Ashtanga Yoga.

Essential Readings :


Suggested Readings :

2. Four chapters on Freedom, Commentary on the Yoga Sutras of Patanjali, Swami Satyananda Saraswati Yoga Publications Trust, Munger, Bihar—Chapter II Section 29 onwards, Chapter III—Sections 1 to 6.
PHILOSOPHY
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER – IV

Paper: WESTERN ETHICS

Max. Marks : 100
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 Hours
Lectures : 75

Aims and Objectives :

This paper gives an insight into the nature of Ethics, moral notions and basic moral theories as propounded by Western Ethical philosophers. This paper also deals with problems of applied ethics.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

(i) The syllabus has been divided into four units.
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each unit shall have two essay type questions, and the candidate shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.

(ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (ii) in the question paper.

Unit-I

2. The notion of Truth, Beauty & Goodness, Reflective Customary Morality.

Unit-II

5. Categorical Ethics : Kant.

Unit-III

7. Teleological Ethics :
   (i) Hedonism
   (ii) Utilitarianism :
        (a) Mill
        (b) Bentham
Unit-IV

8. Moral Rights of Foetus and Female Foeticide.
9. Sexual harassment and Gender Justice.

Essential Readings :


Suggested Readings :


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Objectives:

(I) The course introduces to the students the general concepts and historical viewpoints in experimental psychology. The students would also get an understanding of the Nervous System, Psychophysics, Learning. This course will also give an insight into psychophysics, statistics and cognitive aspects of Psychology.

(II) Pedagogy of the Course Work:

- 80% Lectures (including expert lectures).
- 20% assignments, discussion and seminars and tests.

Paper: EXPERIMENTAL PSYCHOLOGY

Max. Marks : 80
Theory : 70 marks
Internal Assessment : 10 marks
Time : 3 Hours

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

There shall be 9 questions in all. The first question shall be short answer type containing 12 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 7 short answer type questions i.e. 2 marks of each. It shall carry 14 marks and shall be Compulsory question. Rest of the paper shall contain 4 Units. Each Unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

Unit I

The Nervous System: Structure and functioning of the neuron; division of nervous system – Central Nervous System and Peripheral Nervous System; Structure and functioning of the brain.

Unit II

Sensation
Concept and types; Vision-The Visual Stimulus, Structure and Functioning of the Eye, Theories of Colour Vision; Audition: The Auditory Stimulus, Structure and Functioning of the Ear, Theories of Hearing.

Unit III

Psychophysics
Thresholds; Psychophysical Methods of Limits, Constant stimuli and Average Error.

Unit IV

Learning
Concept, Classical Conditioning, Operant Conditioning, Observational Learning.
PSYCHOLOGY PRACTICALS

Max. Marks : 20
Time : 3 Hrs.

Four practicals have to be performed out of six:

1. Two Point Threshold
2. Muller Lyer Illusion
3. Differential Threshold
4. Method of Paired Comparison
5. Maze Learning
6. Bilateral Transfer of Training

Suggested Readings:

PSYCHOLOGY

SEMESTER-IV

Objectives:

(I) The course introduces to the students the general concepts and historical viewpoints in General Psychology. The students would also get an understanding of the principles and theories in different areas like Sensation, Perception and Thinking. The course also introduces the elementary statistics.

(II) Pedagogy of the Course Work:
- 80% Lectures (including expert lectures).
- 20% assignments, discussion and seminars and tests.

Paper: EXPERIMENTAL PSYCHOLOGY

Max. Marks: 80
Theory: 70 marks
Internal Assessment: 10 marks
Time: 3 Hours

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:
There shall be 9 questions in all. The first question shall be short answer type containing 12 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 7 short answer type questions i.e. 2 marks of each. It shall carry 14 marks and shall be Compulsory question. Rest of the paper shall contain 4 Units. Each Unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

Unit I
Memory
Sensory Register; Short-Term and Long-Term Memory; Levels of Processing; Measurement of Memory; Forgetting with special reference to retro-active and pro-active inhibition

Unit II
Perception: Concepts, Types of Perception of Form, Space and Movement
Attention: Nature, Types and Factors.

Unit III
Thinking: Nature, Tool & Types and Factors
Creativity: Concept; Torrance’s Theory of Creativity.

Unit IV
Statistics
Normal Probability Distribution: Properties and Applications: Hypothesis Testing – Type I and Type II Errors; Chi-square Test Application to one-way and Two-way classifications.

Note: The use of non-programmable calculators and statistical tables are allowed in the examination.
PSYCHOLOGY PRACTICALS

Four practicals have to be performed out of the following:

1. Division of Attention
2. Span of Attention
3. Comparing Recall and Recognition as Measures of Memory
4. Retroactive Interference
5. Concept Formation.

Suggested Readings:


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GEOGRAPHY
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-III

Paper –V: GEOGRAPHY OF INDIA

Max. Marks : 70
Theory : 60 marks
Internal Assessment : 10 marks
Time : 3 Hours

Objectives:
To foster an understanding of the physical and cultural landscape of India and its spatial diversity

Course Content

Unit-I
Introduction: India in the context of South Asia, Asia and the World. (05 lectures)
Physiography: Relief, drainage, climate, vegetation, soils. (15 lectures)

Unit-II
Agriculture: Characteristics and problems of Indian agriculture; irrigation, major crops (rice, wheat, maize, sugarcane, cotton, jute and tea), Food security with special reference to India. (15 lectures)
Natural hazards in India: Flood, Drought and Earthquake. (05 lectures)

Unit III
Population: Distribution and density, Growth, Migration, Urbanization (05 lectures)
Mineral and Power Resources: Iron ore, manganese, mica, copper and gold; Coal, Petroleum, Hydroelectricity and Non- conventional Power resources. (15 lectures)

Unit IV
Industries: Distribution and localization factors of major industries (Iron and Steel, Cotton Textiles, Sugar, Fertilizers, Automobile). (15 lectures)
Trade & Transport: Rail, Road, Airways and Waterways; International Trade (05 lectures)

Note:
1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 10 parts. The answer of each part should be in about 25 words. Each part will carry 2 marks (Total 20 marks).
2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, two from each Unit. The students will be required to attempt one question from each Unit. Each question will carry 10 marks (Total 40 marks). These will be in addition to the compulsory question.
3. Special credit will be given to suitable use of maps and diagrams. Use of unmarked map stencils and colour pens/pencils are allowed.
4. Six hours Theory Classes in a week are compulsory.
5. Internal assessment will be based on (i) class tests, (5%) (ii) academic activities, Seminar, Project, Assignment (3%) and (iii) attendance(2%).
6. For USOL, reappear/improvement candidate(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned. The paper-setter must put note (6) in the question paper.
List of Readings:

Essential Reading:


Further Readings:

1. Singh, Gopal : *A Geography of India*, Atma Ram & Sons, New Delhi, 1995

Pedagogy:

- Use of visual aids especially maps.
- Students should be encouraged to use an atlas in the classrooms.
- Audio-video shows on different parts of India.
Paper-VI: CARTOGRAPHY-III

Max. Marks : 30
Time : 3 Hours

Distribution of Marks:

Written paper of 3 hours duration : 20 marks
Viva and Practical record (5 + 5) : 10 marks

Objectives:

• To apprise the students with symbolization of different types of geographical data and depiction of various spatial data.
• To provide training in application of various graphical methods of depicting geographic data.
• To train the students to interpret the topographical sheets at different scales.

Course Content:

UNIT-I
Nature of Geographic Data: Spatial and Attribute (Climatic, Population, Agriculture and Industrial)
Symbolization & Scaling of Geographical Data: Point, Line and Area

(4 lectures, 4 lab sessions)

UNIT-II
Choice, Use and Representation of Data using Point Symbols: Columnar Diagrams (Simple, Multiple, Compound, Percentage); Dot, Circle and Sphere

(6 lectures, 12 lab sessions)

UNIT-III
Choice, Use and Representation of the following Point Symbols: Graphs (Line Graph, Climograph, Hythergraph, Ergograph, Wind Rose, Combined and Bar Graph)

(8 lectures, 20 lab sessions)

UNIT-IV
Choice, Use and Representation of Data using: Line Symbols (Isopleth and Flow Lines); and Area Symbols (Choropleth)

(6 lectures, 12 lab sessions)

Note:

1. The written and practical examination including viva-voce shall be conducted at the respective college itself except USOL. However, the format of the question paper shall be uniform. A separate paper of 20 marks shall be prepared on the spot by the examiners from the prescribed syllabus.
2. Practical examination at the respective colleges shall be conducted by one internal and one external examiner. The external examiner shall be appointed by the Principal of the respective colleges in consultation with the senior most teachers of Geography in the college.

3. For students of USOL, a written theory paper for 20 marks shall be conducted by the University along with the University examination. A separate paper of 20 marks shall be prepared for USOL students from the prescribed syllabus.

4. A compulsory question containing 6 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 4 parts. The answer of each part should not exceed 25 words. Each part will carry 1 mark (Total 4 Marks).

5. The whole syllabus has been divided into 4 Units. Eight questions will be set out of the whole syllabus, i.e. 2 from each Unit. Each question will carry 4 marks (Total 16 marks). The students will be required to attempt one question from each Unit. These will be in addition to the compulsory question.

6. Three hours Practical Classes in a week are compulsory.

7. Evaluation of Practical Record will be done at the time of viva-voce examination. A minimum of 12 sheets are to be prepared by the students. There will be no laboratory exercise at that time.

8. There will be no viva-voce examination for the candidates appearing through USOL. They will be required to submit their Practical Note Book (Practical files) with the University School of Open Learning (Department of Geography) at least 10 days before the commencement of their examination. Their Note Books (Practical files) will be evaluated by two examiners (including at least one from the USOL).

9. For the students of University School of Open Learning, there will be an internal assessment of 10 marks in lieu of the viva-voce examination.

10. A fresh practical note book shall be prepared by failed/improvement/reappear candidates.

11. For practical classes, the number of students in one group shall not exceed fifteen.

12. For USOL, reappear/improvement candidate(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned. The paper-setter must put note (12) in the question paper.
List of Readings

Essential Readings:


Further Readings:


Pedagogy:

- The students need to be trained in the use of symbols to depict various geographic data.
- A well equipped cartographic laboratory with necessary instruments to prepare exercises.
- Students should be encouraged to use computers while preparing practical exercises.
Paper-VII: GEOGRAPHY OF PUNJAB

Max. Marks : 70
Theory : 60 marks
Internal Assessment : 10 marks
Time : 3 Hours

Objectives:
• To understand the regional setting of Punjab state in detail through physical and political maps.
• To examine the cultural patterns of the regions.
• To study the distribution of major crops, industries and transport links in the state.
• To understand the intra regional variations in select aspects.

Course Content:

Unit –I
Introduction: Location, Evolution, Cultural Regions (Majha, Doaba & Malwa) and Administrative Divisions of the State. (15 lectures)

Unit –II
Physical Base: Relief, Drainage, Climate, Soils and Vegetation (12 lectures)
Resources: Mineral and Power; Water with special reference to river water sharing. (8 lectures)

Unit-III
Agriculture: Main Characteristics and Problems; Agro-climatic Regions; Green Revolution & its Ecological Implications; Irrigation; Main crops (wheat, rice, cotton, sugarcane) and their distribution, Livestock and dairying. (20 lectures)

Unit –IV
Population: Distribution, Density, Growth, Migration, Sex Ratio, Urbanization. (7 lectures)
Industries: Main characteristics, Distribution Patterns of Major Industries (Cotton Textile, Sugar, Hosiery Engineering) Industrial Concentration, Problems of Industrialization. (15 lectures)
Trade & Transport: Road, Rail and Air Transport; Inter-State Trade. (3 lectures)

Note:
1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 10 parts. The answer of each part should be in about 25 words. Each part will carry 2 marks (Total 20 marks).
2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, two from each Unit. The students will be required to attempt one question from each Unit. Each question will carry 10 marks (Total 40 marks). These will be in addition to the compulsory question.
3. Special credit will be given to suitable use of maps and diagrams. Use of unmarked map stencils and colour pens/pencils are allowed.
4. Six hours Theory Classes in a week are compulsory.
5. Internal assessment will be based on (i) class tests, (5%) (ii) academic activities, Seminar, Project, Assignment (3%) and (iii) attendance (2%).
6. For USOL, reappear/improvement candidate(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned. **The paper-setter must put note (6) in the question paper.**

**List of Readings**

**Essential Readings:**

1. Mankoo, Darshan Singh  

2. Mavi, H.S. & Tiwana, D.S.  
   : Geography of Punjab, National Book Trust, Delhi, 1993.

3. Singh, Jaspal  
   : Geography of Punjab, Twenty First Century Publications, Patiala, 2014

4. Singh, Malkit  
   : Geography of Punjab, Rashmeet Parkashan, Jalandhar, 2004

**Further Readings:**

1. Deshpande, C.D.  
   : India: A Regional Interpretation, Indian Council of Social Science Research, New Delhi, 1992.

2. Economic and Statistical Organization of Punjab  
   : Statistical Abstract of Punjab, Economic and Statistical Organization of Punjab, Chandigarh, 2014

3. Gosal, G.S. & Gopal Krishan  

4. Gupta S.P.  

5. Kahlon, Simrit  

6. Singh Pritam  

7. Singh, R.L.  

8. Spate, O.H.K. & Learmonth A.T.A.  

**Pedagogy**

- Extensive and intensive use of maps to understand the regional setting.
- A component of field visit to some areas of each region may be planned for effective understanding of the region.
Paper-VIII: CARTOGRAPHY-IV

Max. Marks : 30
Time : 3 Hours

Distribution of Marks:

- Written paper of 3 hours duration : 20 marks
- Viva and Practical record (5 + 5) : 10 marks

Objectives:

- To apprise the students with symbolization of different types of geographical data and depiction of various spatial data.
- To provide training in application of various graphical methods of depicting geographic data.
- To train the students to interpret the topographical sheets at different scales.

Course Content:

UNIT-I
Topographical Maps: Nomenclature (Classification), Study and Interpretation; Significance and Application in Geographical Studies

(4 lectures, 4 lab sessions)

UNIT-II
Profiles: Serial, Composite, Superimposed and Projected
Longitudinal and Transverse; Profiles of rivers

(8 lectures, 16 lab sessions)

UNIT-III
Elementary Remote Sensing: Definition, Concept, History, Application Areas and Types of platforms

(10 lectures, 8 lab sessions)

UNIT-IV
Introduction to Concept of GIS and Computer Cartography.
Definition, Development, Database (Spatial and Non Spatial) GIS Components (Hardware & Software) and Application.
Preparation of Line Graphs, Bars and Pie Charts using Computers.

(10 lectures, 10 lab sessions)

Note:

1. The written and practical examination including viva-voce shall be conducted at the respective college itself except USOL. However, the format of the question paper shall be uniform. For college students, a separate paper of 20 marks shall be prepared on the spot by the examiners from the prescribed syllabus.

2. Practical examination at the respective colleges shall be conducted by one internal and one external examiner. The external examiner shall be appointed by the Principal of the respective colleges in consultation with the senior most teachers of Geography in the college.

3. For students of USOL, a written theory paper for 20 marks shall be conducted by the University along with the University examination. A separate paper of 20 marks shall be prepared by the University for USOL students from the prescribed syllabus.
4. A compulsory question containing 6 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 4 parts. The answer of each part should not exceed 25 words. Each part will carry 1 mark (Total 4 Marks).

5. The whole syllabus has been divided into 4 Units. Eight questions will be set out of the whole syllabus, i.e. 2 from each Unit. Each question will carry 4 marks (Total 16 marks). The students will be required to attempt one question from each Unit. These will be in addition to the compulsory question.

6. Three hours Practical Classes in a week are compulsory.

7. Evaluation of Practical Record will be done at the time of viva-voce examination. A minimum of 12 sheets are to be prepared by the students. There will be no laboratory exercise at that time.

8. There will be no viva-voce examination for the candidates appearing through USOL. They will be required to submit their Practical Note Book (Practical files) with the University School of Open Learning (Department of Geography) at least 10 days before the commencement of their examination. Their Note Books (Practical files) will be evaluated by two examiners (including at least one from the USOL).

9. For the students of University School of Open Learning, there will be an internal assessment of 10 marks in lieu of the viva-voce examination.

10. A fresh practical note book shall be prepared by failed/improvement/reappear candidates.

11. For practical classes, the number of students in one group shall not exceed fifteen.

12. For USOL, reappear/improvement candidate(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned. The paper-setter must put note (12) in the question paper.

List of Readings

Essential Readings:


Further Readings:


Pedagogy:

- They should learn to comprehend the topographical maps by deriving slopes and drawing profiles.
- A well equipped cartographic laboratory with necessary instruments to prepare exercises.
- Students should be encouraged to use computers while preparing practical exercises.
GANDHIAN STUDIES

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-III

SOCIAL THOUGHT OF MAHATMA GANDHI

Max. Marks : 100 marks
Theory : 90 marks
Internal Assessment : 10 marks
Time : 3 Hours

Course Objectives :
The paper is designed to acquaint the students with the Social Thought of Mahatma Gandhi.

Pedagogy of the Course Work :
90% Lectures (including expert lectures)
10% Unit tests, Snap tests, assignments, attendance and class room participation

Note :
1. The syllabus has been divided into four (4) units.
2. There shall be 9 questions in all.
3. The first question is compulsory and shall be short answer type containing 15 short answer type questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. It shall carry 18 marks and shall be compulsory question.
4. Rest of the paper shall contain four (4) units and each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each unit – 4 in all. All questions shall carry 18 marks.
5. For the private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (5) in the question paper.

UNIT-I

Fundamentals of Gandhi’s Social Thought

1. Truth
2. Non-violence
3. Sarvodaya
UNIT-II

Man and State

4. Human Rights
5. Ideal Society, State and Rama Rajya

UNIT-III

Gandhi and Ethics

6. Education
7. Theory of Civilization
8. Morality and Religion

UNIT-IV

Gandhi and Social Justice

9. Drive against Untouchability:
   (a) Caste System
   (b) Communal Award
   (c) Poona Pact

10. Women Empowerment

Essential Readings:

Further Readings:


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POLITICAL THOUGHT OF MAHATMA GANDHI

Max. Marks : 100 marks
Theory : 90 marks
Internal Assessment : 10 marks
Time : 3 Hours

Course Objectives:
The paper is designed to acquaint the students with the Political Thought of Mahatma Gandhi.

Pedagogy of the Course Work:
90% Lectures (including expert lectures)
10% Unit tests, Snap tests, assignments, attendance and class room participation

Note:
1. The syllabus has been divided into four (4) units.
2. There shall be 9 questions in all.
3. The first question is compulsory and shall be short answer type containing 15 short answer type questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. It shall carry 18 marks and shall be compulsory question.
4. Rest of the paper shall contain four (4) units and each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each unit – 4 in all. All questions shall carry 18 marks.
5. For the private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (5) in the question paper.

UNIT-I

Fundamentals of Gandhi’s Political Thought
1. Truth & Non-violence
2. Theory of Ends & Means
3. State : Ideal Society and State

UNIT-II

Democracy & Decentralization
4. Panchayat Raj/Gram Swaraj
5. Freedom & Equality
6. Rights and Duties
UNIT-III

Religion and Politics

7. Satyagraha : Meaning, Essentials, Forms & Significance
8. Satyagraha & Passive Resistance
9. Spiritualization of Politics

UNIT-IV

Contemporary Relevance

10. Communal Harmony
11. Assessment and Contemporary Relevance

Essential Readings

7. Mishra, Anil Dutta : Reading Gandhi, New Delhi (Dorling Kindersley, Pearson), 2012
Further Readings:

<table>
<thead>
<tr>
<th></th>
<th>Author(s)</th>
<th>Title</th>
<th>Publisher/Location</th>
<th>Year</th>
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<tr>
<td>1</td>
<td>Bandyopadhyaya, Jayantaja</td>
<td>Social and Political Thought of Mahatma Gandhi</td>
<td>Allied Publishers, Bombay</td>
<td>1969</td>
</tr>
<tr>
<td>2</td>
<td>Iyer, Raghaavan N.</td>
<td>The Moral &amp; Political Thought of Mahatma Gandhi</td>
<td>London, Oxford University Press</td>
<td>1973</td>
</tr>
<tr>
<td>3</td>
<td>Mishra, Anil Dutta (ed.)</td>
<td>Perspectives on Human Rights</td>
<td>New Delhi, Radha Publications</td>
<td>2002</td>
</tr>
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</table>
A. Objectives:
This course will introduce students to the basic techniques of sourcing news stories and features. They will also be trained in the art and science of writing and presenting print media content.

B. Pedagogy of the Course Work:
80% Lectures (including expert lectures).
20% assignments, discussion and seminars.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:
There shall be 9 questions in all. The first question shall be short answer type containing 10 short questions spread over the whole syllabus and each to be answered in about 50 to 75 words. The candidate is required to attempt any 7 short answer type questions i.e. of 2 marks each. It shall carry 14 marks and is a compulsory question. Rest of the paper shall contain 4 Units. Each Unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

Unit-I: Definition, nature and types of news and features; sourcing news and features.

Unit-II: Writing techniques and styles of news reports and features.

Unit-III: Role and responsibility of a sub-editor; basic editing techniques for copy and pictures; importance and writing of headlines.

Unit-IV: Introduction to typography and design principles; page make up using publishing software

PRACTICALS

1. Prepare a Current Affairs file of news & features.

Max. Marks : 20

Marks : 20 Marks
Books Recommended:

**ESSENTIAL READING**


**ADDITIONAL READING**


JOURNALISM & MASS COMMUNICATION

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER- IV

RADIO & TV JOURNALISM

Max. Marks: 100

<table>
<thead>
<tr>
<th>Component</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory</td>
<td>70</td>
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<tr>
<td>Internal Assessment</td>
<td>10</td>
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<tr>
<td>Time</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Practical</td>
<td>20</td>
</tr>
</tbody>
</table>

A. Objectives:
The course will introduce students to the basic techniques of writing & presenting for the radio and TV medium.

B. Pedagogy of the Course Work:
80 % lectures (including expert lectures).
20 % assignments, discussion and seminars

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:
There shall be 9 questions in all. The first question shall be short answer type containing 10 short questions spread over the whole syllabus and each to be answered in about 50 to 75 words. The candidate is required to attempt any 7 short answer type questions i.e. of 2 marks each. It shall carry 14 marks and is a compulsory question. Rest of the paper shall contain 4 Units. Each Unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

Unit-I: Basic principles of gathering, treatment and presentation of news for Radio; Basic principles of gathering, treatment and presentation of news for Television

Unit-II: Reporting and writing for Radio and TV; Pronunciation and modulation in Radio/TV reporting: Pitch, volume, tempo, vitality.

Unit-III: Basic introduction to audio/video production & its stages (pre-production, production, post production).

Unit-IV: Basic camera shots and language of camera movements.

PRACTICALS

Max. Marks : 20

1. Compilation of 5-minute weekly TV news bulletins 10 Marks
2. Compilation of 10-minute weekly radio bulletins. 10 Marks
ESSENTIAL READING

2. Luthra, H.P., 1984, *Indian Broadcasting*. Publications Division, Min. of I & B.
14. Fulding, Ken, (1990), *Introduction to Television Production*, Longman, New York,
ADDITIONAL READING


2. Lynee S. Gross WCB, *Tele Communication- An Introduction to Electronic Media*. Wm. C. Brown Publisher


*****************************
POLICE ADMINISTRATION
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-III

Police Personnel Administration

(A) Course Objectives:

The objective of this course is to give inputs to the students on the various aspects of personnel relevant to police administration. Effort is made to impart knowledge to the candidates about the meaning, nature, scope and significance of Police Personnel Administration in India. In addition, job analysis, job description, pay policy, compensation and fringe benefits have been discussed. Further, the recruitment, training and promotion system in Police Service in India has been included in the syllabus. The students are also taught about the performance appraisal, police ethics, corruption in police, code of conduct and discipline along with doctrine of pleasure.

(B) Pedagogy of the Course Work:

90 per cent of the Course Content would be delivered through Lecture Method and rest 10 per cent would comprise of:

i. Internal Test-5%
ii. Academic activities (Seminar, Project, Assignment)-3%
iii. Attendance-2%

(C) Instructions for Paper Setters and Candidates:

- The maximum marks for the paper will be 100. The question paper will be of 90 marks and internal assessment of 10 marks.
- Time allowed will be 3 hours.
- There shall be 9 questions in all.
- The first question shall be compulsory and be short answer type containing 12 short questions spread over the whole syllabus and to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 2 marks each (9x2 = 18 marks).
- Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall have two questions and the candidates shall attempt one question from each unit i.e. four questions in all. Each question will carry 18 marks (4x18 = 72 marks).
(D) Course Content:

Unit-I

Meaning, Nature and Scope of Police Personnel Administration; Significance of Police Personnel Administration in India; Career System in Police Administration.

Unit-II

Job Analysis and Job Description of Police Personnel – Concept and Significance; Pay Policy, Compensation and Fringe Benefits.

Unit-III

Recruitment: Meaning and Methods; Recruitment of Police Personnel in India; Training: Meaning and Types; Training of IPS Officers and State Police Services in India; Promotion: Meaning and Principles; Promotion of Police Personnel in India.

Unit-IV

Performance Appraisal; Police Ethics and Code of Conduct; Corruption – Meaning and Causes; Corruption in Police Force; Disciplinary Actions; Doctrine of Pleasure – Safeguards against Arbitrary Punishment.

Essential Readings:


Further Readings:


POLICE ADMINISTRATION
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMIESTER-IV

Law and Order Administration

(A) Course Objectives:

The principal objective of the syllabi is to acquaint the students with the basics of Law and Order Administration in India. Specifically, the students will be imparted the knowledge about the meaning, nature, scope and significance of Law and Order Administration in India along with some basic issues and emerging patterns. The endeavour is to discuss in detail the role and significance of Primary and Auxiliary Agencies of Law and Order Administration. Further, the role of Law and Order Administration in crowd management, communal riots, agrarian and industrial conflicts has also been discussed. The students are also taught about the challenges before Law and Order Administration. In addition, the concept of National Security along with challenges to it, in contemporary terms have been included in the syllabus.

(B) Pedagogy of the Course Work:

90 per cent of the Course Content would be delivered through Lecture Method and rest 10 per cent would comprise of:

   i. Internal Test-5%;
   ii. Academic activities (Seminar, Project, Assignment)-3%;
   iii. Attendance-2%

(C) Instructions for Paper Setters and Candidates:

• The maximum marks for the paper will be 100. The question paper will be of 90 marks and internal assessment of 10 marks.
• Time allowed will be 3 hours.
• There shall be 9 questions in all.
• The first question shall be compulsory and be short answer type containing 12 short questions spread over the whole syllabus and to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 2 marks each (9x2 = 18 marks).
• Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall have two questions and the candidates shall attempt one question from each unit i.e. four questions in all. Each question will carry 18 marks (4x18 = 72 marks).

(D) Course Content:

Unit-I

Meaning, Nature and Scope of Law and Order Administration; Significance of Law and Order Administration in India; Law and Order Administration – Some Basic Issues and Emerging Patterns.

Unit-II

Role, Significance and interrelationships of Law and Order Administration Agencies at the District level : The Police; Civil Administration; Court of Law; Prisons; and Health.
Unit-III

Role of Law and Order Administration in Crowd Management, Communal Riots and Industrial & Agrarian Conflicts. Challenges before Law and Order Administration.

Unit-IV


Essential Readings:


Further Readings


***************
WOMEN’S STUDIES

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-III

Paper : FEMINIST THEORY

Max. Marks : 100
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 Hours

Objective:
This course offers the prominent theories that feminists have formulated to explain the matrix of gender inequality from the nineteenth century to the present. It further seeks to introduce the student to the key debates within feminist theories as well as the shifts in feminism.

Note: The students are expected to have a general understanding of the various strands of feminism and not of any specific feminist thinker in this course.

Course Contents:

Unit-I : Feminism
(a) Definition,
(b) Emergence of Feminism with special focus on
   o Women in French Revolution,
   o Suffrage Movement in the U.S.A. (with reference to Seneca Falls Convention and Declaration of Sentiments),
   o Suffrage Movement in the U.K.
(c) Three waves of Feminism.

Unit-II : Strands of Feminism-I
(a) Liberal Feminism,
(b) Socialist Feminism,
(c) Marxist Feminism.

Unit-III : Strands of Feminism-II
(a) Radical Feminism
(b) Post modern Feminism
(c) Psycho-analytic Feminism (Freudian).
Unit-IV : Strands of Feminism-III

(a) Black Feminism
(b) Cultural Feminism
(c) Eco-Feminism.

NOTE:
- In each of the papers the candidate will be assessed for 90 marks on the basis of a written examination for 10 marks internal assessment.

- There shall be 9 questions in all. The first question shall be compulsory containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidate is required to attempt any 09 short answer type questions carrying 2 marks each (18 marks). Rest of the paper shall contain 4 units. Each Unit shall have two questions and the candidate shall attempt one question from each unit-4 in all. Each question will carry 18 marks.

Essential Readings:


Bhasin, K. and Khan, N.S., Feminism and its Relevance in South Asia, Women Unlimited, New Delhi, 2013

Chatterjee, Mohini, Feminism and Gender Equality, Aavishkar, Jaipur, 2005.


Geetha, V., Theorizing Feminism, Stree, Kolkata, 2012.

Further Readings:


*************
Objective: This course aims to sensitize the student with the status of women in contemporary India, with a special focus upon the factual situation apart from the major issues confronting Indian women.

Unit-I: Demographic Trends

(a) Sex Ratio, Age Specific Sex Ratio: Trends

(b) Change in Sex Ratio: Causes and Consequences

(c) Fertility Rates

(d) Definitions: Infant Mortality Rate, Child Mortality Rate, Total Mortality Rate, Maternal Mortality Rate, Causes of Gender Differentials in Mortality Rates

Unit-II: Women and Education

(a) Gender Gaps in Literacy Rates, School Enrolment and Dropout Rates and Right to Education

(b) Women in Higher Education: Gender Gaps

(c) Obstacles to Women’s Education: Socio Cultural, Economic and Infrastructural

Unit-III: Women and Health

(a) Definition: Health & Reproductive Health

(b) Factors affecting Women’s Health Status

(c) Issues relating to women’s health status: Nutritional health status of women and girl child in India.
Unit-IV : Women and Work :

(a) Changing definition

(b) Gender differential in Work Participation Rates

(c) Sexual Division of Labour

(d) Sexual Harassment at the Workplace

(e) Obstacles to Women’s Workforce Participation : Cultural, Skill development etc.

NOTE :

- In this paper, the candidate will be assessed for 90 marks on the basis of a written examination and for 10 marks internal assessment.

- There shall be 9 questions in all. The first question shall be compulsory containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidate is required to attempt any 09 short answer type questions carrying 2 marks each (18 marks). Rest of the paper shall contain 4 units. Each Unit shall have two questions and the candidate shall attempt one question from each unit-4 in all. Each question will carry 18 marks.

Essential Readings :


Further Readings:


HUMAN RIGHTS & DUTIES

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-III

PAPER : HUMAN RIGHTS & DUTIES IN INDIA

Max. Marks : 100 Marks
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 Hours

Objective:
The course is designed to make students aware about the human rights and duties framework in India. An attempt has been made to deal the issue within the ambit of evolution of the concepts of human rights and duties; Constitutional structure and Implementation mechanisms.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

Note: For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine short answer type questions out of 12 i.e. 9x2 = 18 marks.

In addition to it, Questions No. II to IX will consist of long answer (Essay Type) questions i.e. 2 questions from each Unit with internal choice carrying 18 marks each i.e. 4x18=72.

UNIT I: EVOLUTIONARY PHASE

(i) Evolution of the concept of Human Rights in India
(ii) The notion and significance of Duties in India
(iii) Values and relevance of composite culture of India: non-violence; secularism and fraternity

UNIT II: CONSTITUTIONAL FRAMEWORK

(i) The Preamble
(ii) Fundamental Rights
(iii) Directive Principles of State Policy
(iv) Fundamental Duties

UNIT III: KEY AREAS IN THE CONTEMPORARY PHASE

(i) Right to food security
(ii) Right to Education
(iii) Right to Information
(iv) Right to clear environment
UNIT IV: IMPLEMENTATION OF HUMAN RIGHTS

(i) Constitutional Machinery: Role of Judiciary
(ii) Statutory Machinery: National Human Rights Commission and State Human Rights Commissions

Essential Readings:


Further Readings:

HUMAN RIGHTS & DUTIES

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-IV

PAPER : HUMAN RIGHTS ISSUES IN INDIA

Max. Marks : 100 Marks
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 Hours

Objective:

The Paper deals with a few specific issues in India along with some key responses emerging from the Indian society for the protection and Promotion of human rights.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

Note: For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine short answer type questions out of 12 i.e. 9x2 = 18 marks.

In addition to it, Questions No. II to IX will consist of long answer (Essay Type) questions i.e. 2 questions from each Unit with internal choice carrying 18 marks each i.e. 4x18=72.

UNIT I: HUMAN RIGHTS & LABOUR

(i) Bonded Labour
(ii) Unorganized labour
(iii) Child Labour

UNIT II: STRUCTURAL PROBLEMS AND IMPACT ON HUMAN RIGHTS

(i) Poverty
(ii) Illiteracy
(iii) Unemployment

UNIT II: HUMAN RIGHTS & CRIMINAL JUSTICE

(i) Concept of Criminal Justice System in India
(ii) Rights of the accused
(iii) Rights of the victim

UNIT IV: SOCIAL AUDITING FOR HUMAN RIGHTS

(i) Definition, significance of social auditing
(ii) Agent of Social Auditing including Human Rights Defenders
(iii) Role of Media in social auditing
(iv) Role of Civil Society in social auditing
Essential Readings:


Further Readings:

RELIGIOUS & SIKH STUDIES
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-III

PAPER- III, SIKH RELIGION AND HISTORY

Max. Marks :100
Written :  90
Internal :  10
Time :  03 hrs.

Objectives:
The course is designed for the students who want to pursue semester based graduate degree programme with Religious Studies as an elective subject. It is open to any student drawn from multiple disciplinary backgrounds after completion of 10+2 course. As one of the elective subject at the graduate level curriculum, it purports to develop a broad understanding of Indian Religions and awareness about the origin, features and purpose of different religions.

INSTRUCTIONS FOR PAPER-SETTER AND CANDIDATES:
Note:  (i) For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine answer type questions out of twelve. Question No. I would carry 18 marks (9X2).
In addition to it, Questions No. II to IX will consist of eight long answer (Essay Type) questions which will be further divided into four units with each Unit having two questions to ensure internal choice to the candidate. In all, each question in this section shall carry 18 marks and this section shall carry 72 marks (4X18).

Course Contents

Unit - I

Unit - II

Unit - III
Life, Teachings and Contribution: Bhagats and Bhattas

Unit - IV
Compilation of the Adi Granth; Foundation of the Khalsa
Essential Readings

- G.S. Talib: *Guru Nanak: His personality & Vision*

Further Reading

RELIgIOUS & SIKH STUDIES
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-IV

PAPER- IV SIKH LITERATURE AND INSTITUTIONS

Objectives:
The course is designed for the students who want to pursue semester based graduate degree programme with Religious Studies as an elective subject. It is open to any student drawn from multiple disciplinary backgrounds after completion of 10+2 course. As one of the elective subject at the graduate level curriculum, it purports to develop a broad understanding of Indian Religions and awareness about the origin, features and purpose of different religions.

INSTRUCTIONS FOR PAPER-SETTER AND CANDIDATES:
Note: (i) For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine answer type questions out of twelve. Question No. I would carry 18 marks (9X2). In addition to it, Questions No. II to IX will consist of eight long answer (Essay Type) questions which will be further divided into four units with each Unit having two questions to ensure internal choice to the candidate. In all, each question in this section shall carry 18 marks and this section shall carry 72 marks (4X18).

Course Contents

Unit - I
Unity of Guruship; Institution of Gurdwara

Unit -II
Different sects within the Sikh Movement (Udasis, Minas, Dhirmalya, Ram Raiyas) origin and development

Unit - III
Study of Japji and Chandi Di Var (Message and Formation)

Unit - IV
Study of Janam Sakhis; Tika; Parmarath; Gost. (Definition and Features) (Two out of three)
Essential Readings

- शब्दिक वेंट बाटोभा अदे समकिंद वेंट चिह्न, डा. (मिंगू) पुराण मिठ मसवाना, तानु तानु तेंट पृथ्वीविभिन्नी, अभिमुख
- उपवन मिठ, ताजदी पीढ़ी विश्वास भूलासीमान, नवरोब्ह्य विषविविवि, पेनाशी पृथ्वीविभिन्नी, पाठ्यांग
- वल्ल मिठ, डा., नव अपियोभ अदे मिठ अपियोभ, पवष्कवात्र विबुि, पेनाशी पृथ्वीविभिन्नी, पाठ्यांग
- युवा सतती मिठ, सुपरो, विषवाक्यन, पुष्पय उ प्रथ, राव राव राव राव राव, अभिमुख
- राव मिठ, डा. सुपरो उ प्रथ, पवष्कवात्र विबुि, पेनाशी पृथ्वीविभिन्नी, पाठ्यांग
- पवित्रिक मिठ, विवाह मिठ, चंडी दी दर, चंडी दी दर, चंडी दी दर
- राव मिठ सनंद, चंडी दी दर, ताजदी पवष्कवात्र पाठ्यांग
- उपवन मिठ साभारी, चंडी दी दर मानव, विज्ञान विज्ञान साधन

Further Reading

- Jagraj Singh: *A complete guide to Sikhism*, Unistar Chandigarh, 2011

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ENVIRONMENT CONSERVATION
B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-III

Paper : Air Pollution and Climate Change

<table>
<thead>
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<th>Theory Hours</th>
<th>Practical Hours</th>
<th>Theory Marks</th>
<th>Internal Assessment Marks</th>
<th>Practical Marks</th>
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<td>65</td>
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</table>

The number of hours for theory and practical per week shall be 6 hours and 4 hours respectively.

**Note:** The practical will include survey and its project reports carrying 5 marks, and 20 marks will be allotted to laboratory practicals.

**Instructions for paper setters:**

There will be 9 questions in all, two each from section I to IV. All questions will carry equal marks (13 marks each). Question No. I will be short answer type & will cover the whole syllabus. Candidates will attempt five questions in all, selecting one each from section I to IV and the first compulsory question.

**Paper :**

**AIR POLLUTION AND CLIMATE CHANGE**

**Unit-I**

**Atmosphere:** Composition of atmosphere, Air Pollution: Sources, Classification (Natural and anthropogenic sources; primary and secondary pollutants), Smoke, Smog, Particulate Matter and Acid rain. Effects of air pollution on human health, plants, animals and material. Air (Prevention and Control of Pollution) Act, 1981.

**Unit-II**

**Green House Effect:** Definition, Green house gases, Sources of green house effect, Global Warming. Stratospheric ozone layer depletion. Role of agriculture to green house effect (paddy and livestock, biomass burning) in GHE.

**Unit-III**

**Noise pollution:** Definition, Sources, Noise standards, Silence Zones, Consequences of noise pollution.

**Radioactive Pollution:** Definition, Sources, effect on human health.

**Mineral Resources:** Types and Importance of minerals; Mineral extraction and environmental problems (limestone mining in Moussourie hills, coal mining in Jharkhand).

**Unit-IV**

**Control:** Measures and techniques to control air pollution in vehicles and industries, Green building concept, CDM (Clean Development Mechanism), Carbon sequestration. Control of noise pollution.
PRACTICAL

To monitor the level of Dust fall, SPM in surrounding atmosphere.

To monitor the level of NOx and SO$_2$ in surrounding atmosphere.

To prepare a survey report on different sources causing air pollution in local area.

To prepare a survey report on noise pollution in your locality.

To visit, collect data and prepare report regarding air and water pollution from sugar mill, thermal plant, cement factory in the adjoining area like Nawanshahr, Ropar, and Hoshiarpur.
ENVIRONMENT CONSERVATION
B.A. /B.Sc.(GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-IV

Paper : SOLID WASTE AND DISASTER MANAGEMENT

<table>
<thead>
<tr>
<th>Theory Hours</th>
<th>Practical Hours</th>
<th>Theory Marks</th>
<th>Internal Assessment Marks</th>
<th>Practical Marks</th>
<th>Practical Assessment Marks</th>
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<td>65</td>
<td>10</td>
<td>20</td>
<td>5</td>
<td>100</td>
</tr>
</tbody>
</table>

The number of hours for theory and practical per week shall be 6 hours and 4 hours respectively.

Note: The practical will include survey and its project reports carrying 5 marks, and 20 marks will be allotted to laboratory practicals.

Instructions for paper setters :-

There will be 9 questions in all, two each from section I to IV. All questions will carry equal marks (13 marks each). Question No. I will be short answer type & will cover the whole syllabus. Candidates will attempt five questions in all, selecting one each from section I to IV and the first compulsory question.

Unit-I


Unit-II

Natural disasters: Floods, earthquakes, Tsunami, land slides, drought, forest fire and Tropical cyclones.
Disaster management: pre-disaster phase, actual disaster phase, post- disaster phase.

Unit-III

Bioenergy and waste water treatment: Biogas plant: Construction and working of biogas plants, its advantages and disadvantages. Vermi-culture and Vermi-composting, Biofertilisers, Biofuels.

Waste water treatment (STP and ETP), A brief account of primary, secondary and tertiary treatment.

Unit-IV


Waste lands: Definition, Categories of waste lands, Desertification, ways of reclamation.
PRACTICAL

A visit to Composting/Vermicomposting Unit.
To prepare a survey report of municipal waste of your city (Generation to disposal).
Classify the waste of your municipality waste (Source based and Waste based)
To visit any landfill site and prepare a tour report.
To prepare a list of herbicides / pesticides / insecticides commonly used in this area
To make a list of various botanical pesticides available in the market
Assignments/project as assigned by the teacher

Books Recommended

**HOME SCIENCE**

**B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2018-19**

**SEMIESTER- III**

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**Scheme of Examination**

<table>
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<tbody>
<tr>
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<td>40</td>
<td>10</td>
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<table>
<thead>
<tr>
<th>No. of Papers</th>
<th>Time in hrs.</th>
<th>Marks Allotted</th>
<th>Int. Ass.</th>
<th>Total Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>40</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

**Total : 100**

*Note: 1. Each Practical group will have 12-15 students.*

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**SEMIESTER-III**

**CLOTHING & TEXTILE (THEORY)**

<table>
<thead>
<tr>
<th>Max. Marks</th>
<th>Theory</th>
<th>Int. Ass.</th>
<th>Periods</th>
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<tbody>
<tr>
<td>:50</td>
<td>:40</td>
<td>:10</td>
<td>:6 Hours/8 periods per Week</td>
</tr>
</tbody>
</table>

**INSTRUCTIONS FOR THE PAPER SETTER:**

The question paper will consist of five Sections: A, B, C, D and E. Sections A, B, C and D will have two questions from the respective sections of the syllabus and will carry 8 marks each. Section E will consist of objective type questions covering the entire syllabus uniformly and will carry 8 marks.

**INSTRUCTIONS FOR THE CANDIDATES:**

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

---

**SECTION-A**

1. Equipment & supplies used for Clothing construction - their use & care
2. Sewing Machine:
   (a) Parts of Sewing Machine and its accessories.
   (b) Common defects in sewing machine & their remedies.
   (c) Care of Sewing Machine.
SECTION-B

1. Recording of body measurements & care to be taken while taking body measurements.
3. Tools of Drafting, Steps involved in drafting from measurement to garment construction, points to be kept in mind while making a draft.
4. Terms used in construction i.e. Seam Allowance, Ease, Selvedge, Dart, Grain line, Stay stitching.

SECTION-C

1. Classification of textile fibres
2. Manufacture and Properties of fibres:
   Cotton, Silk, Wool, Nylon.

SECTION-D

1. Different types of yarns:
   Simple, Novelty and Textured Yarns.
2. Fabric Construction –
   (A) Weaving - Parts of a loom, Process of weaving & Types
      a. Simple weaves – Plain, Rib, Basket
      b. Twill weaves
      c. Satin weave & Sateen weave
   (B) Knitting, Felting and Bonding.

(SEMESTER-III)

CLOTHING & TEXTILE (PRACTICAL)

Maximum Marks : 50
Paper : 40
Internal Assessment : 10
Time : 6 periods/week

1. Make samples of the following :
   (a) Tacking, running stitch, hemming, Back Stitch, Fasteners using buttonhole stitch
   (b) Seams—Flat seam, Counter hem, Mantua maker, French Seam & Run & Fell seam.
   (c) Processes—Continuous wrap, two piece placket opening, pleats, gathers into a band, tucks.
   (d) Joining- shaped facing on V neck line & piping on round neck.
2. Embroidery—any “10” fancy stitches.

3. Drafting of the following:
   (a) Jangia
   (b) Bloomer
   (c) Child’s bodice block
   (d) Sleeve- Plain sleeve, Puff sleeve
   (e) Collars- Baby, Cape & Peter Pan

4. Construction of following:
   (a) Jangia
   (b) Bloomer
   (c) Gathered frock with any sleeve and collar.
SEMESTER-IV

CLOTHING & TEXTILE (THEORY)

INSTRUCTIONS FOR THE PAPER SETTER:

The question paper will consist of five Sections: A, B, C, D and E. Sections A, B, C and D will have two questions from the respective sections of the syllabus and will carry 8 marks each. Section E will consist of 8 objective type questions covering the entire syllabus uniformly and will carry 8 marks.

INSTRUCTIONS FOR THE CANDIDATES:

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

SECTION-A

1. Elements of art such as colour, form, texture, shape and line
2. Principles of design such as Harmony, Balance, Rhythm, Emphasis, Proportion in relation to clothing

SECTION-B

1. Introduction to Fashion, Fad and Style.
2. Selection of suitable clothes for following age groups: Infants, Toddlers, School going children, Adolescents, Adults, Elderly.
3. Care & Storage of garments of cotton, wool, silk.
SECTION-C

1. Bleaches- Oxidising, reducing bleaches & their suitability to different fabrics.

SECTION-D

1. Application of colour on fabrics
   (a) Dyeing-Simple dyeing of cotton
   (b) Resist-Tie, Dye and Batik
2. Printing-Block printing, screen printing, roller printing

(SEMESTER-IV)

CLOTHING & TEXTILE (PRACTICAL)

Maximum Marks : 50
Paper : 40
Internal Assessment : 10
Time : 6 periods/week

1. Laundry :
   (a) Testing of cotton, wool silk and nylon by burning test.
   (b) Stain Removal : Rust, Coffee, Tea, Paint, Nail Polish, Lipstick, Perfume, Blood, Boot Polish, Ink (Ball Pen), Curry and Juice.
2. Laundry & finishing of following garments :
   *Cotton : Salwar, Kameez.
   *Synthetic : Gathered Frock/Pleated Skirt.
   *Woollen : Cardigan/Pullovers.
   * Spot cleaning of a Shawl.
3. Preparation of samples of Tie and Dye & Block Printing.
4. Drafting and construction of the following garments:
   a. Petticoat
   b. Lady’s kameez and salwar
5. Project on Care Labels of Garments or Market survey of Laundry Products.
Reference Books:


17. Printing and Washing of Textile, Neelima


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MATHEMATICS

B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-III

Paper-I : ADVANCED CALCULUS-I

Max. Marks : 30
Time : 3 Hours
Int. Assesment : 4 Marks

Note : 1. The syllabus has been split into two Units : Unit-I and Unit-II. Four questions will be set from each Unit.

2. A student will be asked to attempt five questions in all selecting at least two questions from each unit. Each question will be of 6 marks.

3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorials.

4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester.

Unit-I

Limit and continuity of functions of two and three variables. Partial differentiation. Change of variables. Partial derivation and differentiability of real-valued functions of two and three variables. Schwarz and Young’s theorem. Statements of Inverse and implicit function theorems and applications.

Vector differentiation, Gradient, Divergence and Curl with their properties and applications.

Unit-II


References


**Paper II : DIFFERENTIAL EQUATIONS- I**

Max. Marks : 30
Time : 3 Hours
Int. Assessment : 3 Marks

**Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester.

**Unit-I**


**Unit-II**

Linear differential equations with variable coefficients- Cauchy and Legendre Equations. Linear differential equations of second order- transformation of the equation by changing the dependent variable/the independent variable, methods of variation of parameters and reduction of order. Simultaneous Differential Equations

**References**

Paper III: STATICS

Max. Marks : 30
Time : 3 Hours
Int. Assesment : 3 Marks

Note:
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester.

Unit-I

Basic notions. Composition and resolution of concurrent forces – Parallelogram law of forces, Components of a force in given directions, Resolved parts of a force, Resultant of any number of coplanar concurrent forces, Equilibrium conditions for coplanar concurrent forces, equilibrium of a body resting on a smooth inclined plane. Equilibrium of three forces acting at a point – Triangle law of forces, \( \lambda \mu \) theorem, Lami’s theorem. Parallel Forces.

Unit-II

Moments and Couples – Moment of a force about a point and a line, Centre of Parallel forces, theorems on moment of a couple, Equivalent couples, Varignon’s theorem, generalized theorem of moments, resultant of a force and a couple, resolution of a force into a force and a couple, reduction of a system of coplanar forces to a force and a couple. Equilibrium conditions for any number of coplanar non-concurrent forces.

Friction: Definition and nature of friction, laws of friction, equilibrium of a particle on a rough plane, Problems on ladders, rods, spheres and circles.

References

3. K.R.Chaudhery and A.C.Aggarwal : Elements of Mechanics, Statics and Dynamics, S. Chand and Company

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MATHEMATICS
B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-IV

Paper I: ADVANCED CALCULUS II

Max. Marks : 30
Time : 3 Hours
Int. Assesment : 4 Marks

Note: 1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester.

Unit-I
Definition of a sequence, Bounds of a sequence, Convergent, divergent and oscillatory sequences, Algebra of limits, Monotonic Sequences, Cauchy’s theorems on limits, Subsequences, Bolzano-Weirstrass Theorem, Cauchy’s convergence criterion.

Sequential continuity and Uniform continuity of functions of single variable.

Unit-II
Series of non-negative terms, P-Test, Comparison tests, Cauchy’s integral test, Cauchy’s Root test, Ratio tests, Kummer’s Test, D’Alembert’s test, Raabe’s test, De Morgan and Bertrand’s test, Gauss Test, Logarithmic test, Alternating series, Leibnitz’s theorem, Absolute and conditional convergence, Rearrangement of absolutely convergent series, Riemann’s rearrangement theorem.

References
Paper II: DIFFERENTIAL EQUATIONS- II

Max. Marks : 30
Time : 3 Hours
Int. Assesment : 3 Marks

Note:
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester.

Unit-I


Bessel functions of First and Second kind. Legendre function. Generating function. Recurrence relation and orthogonality of Bessel and Legendre function.

Partial Differential Equations: Origin of first order Partial Differential Equations, Linear Equation of first order, Integral surfaces passing through a given curve, surfaces orthogonal to a given system of surfaces.

Unit-II

Inverse Laplace transforms- Linearity property, Shifting properties, Change of Scale Property. Inverse Laplace transforms of derivatives and integrals, Convolution theorem.

Applications of Laplace Transforms - Solution of differential equations with constant coefficients, Solution of differential equations with variable coefficients, Solution of simultaneous differential equations.

Laplace Transformation-Linearity of the Laplace transformation. Existence theorem for Laplace transformations, Shifting Theorems, Laplace transforms of derivatives and integrals, Multiplication of \( \mathcal{L} \), Division by \( \mathcal{L} \).

References

**Paper III : DYNAMICS**

Max. Marks : 30  
Time : 3 Hours  
Int. Assessment : 3 Marks

**Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester.

**Unit-I**

Motion of a particle with constant acceleration, acceleration of falling bodies, motion under gravity, motion of a body projected vertically upwards: Newton’s Laws of Motion, Motion of two particles connected by a string, motion along a smooth inclined plane, constrained motion along a smooth inclined plane. Variable acceleration: Simple harmonic motion, elastic string.

**Unit-II**

Curvilinear motion of a particle in a plane: Definition of velocity and acceleration, projectiles, motion in a circle.

Work, power, conservative fields and the potential energy, work done against gravity, potential energy of a gravitational field.

Relative motion, relative displacement, velocity and acceleration, motion relative to a rotating frame of reference.

Linear momentum, angular momentum, conservation of angular momentum, impulsive forces, principle of impulse and momentum, motion with respect to centre of mass of a system of particles, collisions of elastic bodies, loss of energy during impact.

**References**

2. K.R. Chaudhery and A.C. Aggarwal : Elements of Mechanics, Statics and Dynamics. S Chand and Company

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COMPUTER SCIENCE
SEMESTER-III

SCHEME OF EXAMINATION

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**Note:** Practical marks will include the appropriate weightage for proper maintenance of Lab. Record.

**Paper-CS05 : Computer Organization**

**Objective:** To teach the students the basics of computer organization, Microprocessor & basic know how about system maintenance.

**Note:**
(i) The question paper will consist of Four units.
(ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering the whole syllabi.
(iii) The students are required to attempt **ONE** question from each unit and the compulsory question.
(iv) All questions carry equal marks unless specified.

**UNIT - I**

*Representation of Information:* Number system: Binary, Decimal, Hexadecimal, Octal; Conversions; integer and floating point representation, character codes (ASCII, EBCDIC), error detection and correction codes: Parity bit method, Hamming code; Boolean algebra.

**UNIT – II**


UNIT – III

_Microprocessor:_ Architecture of 8086/8088 Processor Model; Instruction Set; Addressing Modes: Registers used in Microprocessor.

_Assembly Language:_ Features of Assembly Language, Machine Language vs Assembly Language, Pseudo Instruction; use of Assembly for programs: Addition, Subtraction, Multiplication using Subroutines and Basic Input/Output.

UNIT – IV

_System Maintenance:_ Introduction to various physical components of a computer, Physical Inspection and Diagnostics on PC, types of displays and other peripheral devices, installing software; Functional description of various Internal and External cards; Viruses: Types of Computer Viruses, Detection of Viruses, Protection from Viruses.

Suggested Readings:

**Essential:**

**Further Reading:**

Paper-CS06 : Object Oriented Programming (using C++)

Objective : To teach the students the implementation of various object oriented programming concepts through C++ programming

Note : (i) The question paper will consist of Four units.
(ii) Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering the whole syllabi.
(iii) The students are required to attempt ONE question from each unit and the compulsory question.
(iv) All questions carry equal marks unless specified.

UNIT – I

Basic Concepts of Object Oriented Programming(OOP) : Object, Class, Encapsulation, Data Hiding, Inheritance, Polymorphism. Analysis and design of system using Object Oriented Approach, Benefit of OOPs.

Structure of a C++ Program : Include files, Declaration of class, Main function, I/O streams.

Classes : Class Declaration : Data Members, Member Functions, Private and Public members, data hiding and encapsulation, arrays within a class.

Objects : Creating Objects, Accessing class data members, Accessing member functions, Methods of passing arguments to functions.

UNIT – II


Functions in C++ : Member function definition inside the class declaration and outside the class declaration, scope resolution operator, Private and Public member function, Nesting of member functions, Static and Friend functions.

UNIT – III

Constructors and Destructors: Constructors: Declaration and Definition, Default Constructors, Parameterized Constructors, Copy Constructors. Destructors: Definition and use.

Inheritance – Extending Classes : Concept of inheritance, base class, derived class, defining derived classes, visibility modes, private, public, protected; single inheritance : privately derived, publicly derived; making a protected member inheritable, access control to private and protected members by member functions of a derived class, multilevel inheritance, nesting of classes.

UNIT – IV

Polymorphism : Definition, types, Function overloading, Operator Overloading, Virtual functions and pure virtual functions.
Suggested Readings:

**Essential:**

2. E. Balaguruswamy : *Object Oriented Programming with C++*, TMH.

**Further Reading:**

4. Herbert Schildt : *Schildt’s Advanced Win 95 Prog. in C & C++*, TMH.
5. Herbert Schildt : *C++ The Complete Reference*, TMH.

Paper – PCS03 : Practical Based on Paper CS06

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# COMPUTER SCIENCE
## SEMESTER-IV

### SCHEME OF EXAMINATION

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<th>FOURTH SEMESTER</th>
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<td>Paper –CS08</td>
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<td>Practical-C</td>
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*Note:* Practical marks will include the appropriate weightage for proper maintenance of Lab. Record.

Paper-CS07: Database Concepts

**Objective:** To teach the underlying concepts of database system in depth to students.

*Note:* (i) The question paper will consist of Four units.

(ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering the whole syllabi.

(iii) The students are required to attempt **ONE** question from each unit and the compulsory question.

(iv) All questions carry equal marks unless specified.

### UNIT – I

*Basic Concepts:* A Historical perspective, File Systems vs. DBMS, Characteristics of the Data Base Approach, Abstraction and Data Integration, Database users, Advantages and Disadvantages of DBMS, Implication of Database approach; Data Independence.

### UNIT – II

Relational Data Model: Relational model concepts, Integrity constraints over Relations, Conventional Data Models: An overview of Network and Hierarchical Data Models, The 12 Rules (Codd’s Rule) for an RDBMS; Entity Relationship model.

### UNIT – III

UNIT – IV

Advance concepts: Client-Server Architecture, 3-tier Architecture of database, Distributed databases, Normalization: First, second and third Normal Form, Boyce Codd Normal Form; Database Integrity: entity and referential; Security: , Concurrency, Recovery

Suggested Reading

Essential:


Further Readings


Comp.
Paper-CS08 : Data Structures

Objective : To teach the students various data structures and operations performed on them using algorithms. The students will be capable to implement these operations using any programming language.

Note : (i) The question paper will consist of Four units.

(ii) Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering the whole syllabi.

(iii) The students are required to attempt ONE question from each unit and the compulsory question.

(iv) All questions carry equal marks unless specified.

UNIT – I

Basic Concepts: Introduction to Complexity, Data Structure and Data Structure operations. Applications of Data Structure, Basic data Structures; Arrays: Introduction, Types of Array, Memory representation, Applications and operations. Stacks: Introduction, memory representation, Applications and operations

UNIT – II

Linked List: Operations:-traversing, searching, inserting, deleting, operations on header linked list, circular linked list, doubly linked list, memory representation, Applications, polynomial manipulation; Queue: Introduction, Types, Memory Representation and Applications.

UNIT – III

Trees – Definition and Basic concepts, Representation in Contiguous Storage, Binary Tree, Binary Tree Traversal, Binary Search tree; Graphs: Introduction, Memory Representation, Graph Traversal (DFS and BFS)

UNIT – IV

Searching: Binary and Linear Search; Sorting: Bubble sort, Insertion sort, Selection sort, Merge Sort, Quick sort.

Suggested Readings :

Essential :


Further Readings :


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196  B.A./B.Sc. (GENERAL) SECOND YEAR (SEMESTER SYSTEM ) SYLLABUS

STATISTICS
B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-III

Note: 1. A candidate shall offer these subjects in B.A./B.Sc. only if he/she takes up Mathematics as a subject in B.A./B.Sc.

2. A candidate shall offer B.A./B.Sc. 2nd year only if he/she had taken up the corresponding subject in B.A./B.Sc. 1st year.

3. There are two papers with codes 201 and 202 in the subject of Statistics in B.A./B.Sc. 3rd semester. These are to be taught simultaneously throughout the semester.

4. 8 lectures (of 45 minutes each) for theory per week and 4 lectures (of 45 minutes each) for practical per week amounting in all to 12 lectures per week for two papers (one theory and one practical) shall be allotted for the teaching.

Paper- 201: STATISTICAL INFERENCE

Maximum Marks : 75
Theory : 65
Internal Assessment : 10
Time allowed : 3 hours

Objective: The objective of the course is to provide a systematic account of testing and closely related theory of point estimation and confidence sets, together with their applications.

Notes:
1. There will be in all nine (9) questions, all of equal marks. The first question is compulsory and will be of short answer type covering the entire syllabus. Out of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each Unit.

2. Simple non-programmable calculator is allowed.

3. Statistical tables and log tables will be provided on request.

UNIT-I

Concept of a statistic and its sampling distribution. Point estimate of a parameter, concept of unbiasedness, consistency, efficiency and sufficiency (only the definitions and examples). Maximum likelihood estimation (standard distributions) Standard errors of sample mean and sample proportion. Sampling distribution of sum of independent binomial and Poisson random variables. Independence of sample mean and variance in random sampling from a normal distribution (without derivation).

Statements and sampling distributions of chi-square, t & F distributions and their relationships.
UNIT-II

*Statistical Tests and Interval Estimation*: Null and alternative hypothesis, two types of errors, level of significance and p-value. Testing for the mean and variance of a normal distribution, testing of equality of means and variances of two univariate normal distributions, and their related confidence intervals. Testing the significance of sample correlation coefficient.

*Large Sample Tests*: Use of central limit theorem for testing and interval estimation of a single mean and a single proportion, difference of two means and two proportions. Fisher’s Z-transformation and its uses. Chi-square test for goodness of fit and testing of independence of attributes, Yale’s correction.

**References**:  

**Additional References**:  

**Paper- 202: PRACTICAL (SEMESTER-III)**  
**Maximum Marks : 25**  
**Time allowed : 3 hours**  

(Viva voce : 5 marks; record of the year : 5 marks; Annual Paper : 15 marks)

**Note**: The Practical Question Paper will contain five questions from the following topics. A student will be required to attempt three questions, each of 5 marks in three hours’ duration.

1. Drawing random samples from standard distributions : Uniform, Exponential and Normal.  
2. Tests of significance based on t, chi-square and F for one sample, two samples and paired sample problems; significance of correlation coefficient. Use of Z-Transformation for testing $\rho = \rho_0$.  
3. Large sample tests for means and proportions, tests of goodness of fit and independence of attributes in contingency tables.  
4. Confidence intervals for one and two sample problems (mean, variance and proportion).
Note: 1. A candidate shall offer this subject in B.A./B.Sc. only if he/she takes up Mathematics as a subject in B.A./B.Sc.
2. A candidate shall offer this subject in B.A./B.Sc. 2nd year only if he/she had taken up the corresponding subject in B.A./B.Sc. 1st year.
3. There are two papers code named papers 203 and 204 in the subject of Statistics in B.A./B.Sc. 4th semester. These are to be taught simultaneously throughout the semester.
4. 8 lectures (45 minutes each) for theory per week and 4 lectures (45 minutes each) for practical per week amounting in all to 12 lectures per week for two papers (one theory and one practical) shall be allotted for the teaching.

Paper - 203: SAMPLE SURVEYS, DESIGN AND ANALYSIS OF EXPERIMENTS

| Maximum Marks | 75 |
| Theory | 65 |
| Internal Assessment | 10 |
| Time allowed | 3 hours |

Objective: The objective of this course is to acquaint the students about the need & merits of sampling over census and the implementation of various sampling schemes along with their merits, demerits and comparisons in appropriate practical situations. The students will get exposure to various statistical designs leading to the analysis of variance, elimination of heterogeneity of the data and construction of designs.

Notes: 1. There will be in all nine (9) questions, all of equal marks. The first question is compulsory and will be of short answer type covering the entire syllabus. Out of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each Unit.
2. Simple non-programmable calculator is allowed.
3. Statistical tables and log tables will be provided on request.

UNIT-I
Concepts of population and sample, need for sampling, census and sample surveys, basic concepts in sampling. Sample selection and sample size. Sampling and non-sampling errors.

Some basic sampling methods for estimation of population mean, variance and standard error of estimates: simple random sampling (SRS) with and without replacement, stratified random sampling under various allocations and systematic sampling.

UNIT-II
Linear Models: concepts of fixed effect, random effect and mixed effect models. Analysis of variance for one way, two-way (with one observation per cell and with multiple but equal observations per cell) classifications under the fixed effect models.
Need for design of experiment, three fundamental principles of design, basic designs-CRD, RBD, LSD and their analysis.

References:


Additional References:


Paper - 204: PRACTICAL (SEMESTER-IV)

Maximum Marks : 25
Time allowed : 3 hours

(Viva voce : 5 marks; record of the year : 5 marks; Annual Paper : 15 marks)

Note : The Practical Question Paper will contain five questions from the following topics. A student will be required to attempt three questions, each of 5 marks, in three hours duration.

1. Selection of sample and determination of sample size : Simple random sampling (SRS), stratified SRS, allocation problems in stratified SRS and systematic sampling.
2. Analysis of variance for one-way and two-way classifications. Analysis of CRD, RBD and LSD.

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APPLIED STATISTICS

SEMESTER-III

Note: 1. This course shall not be opted for along with courses in B.A./B.Sc Mathematics and/or B.A./B.Sc. Statistics.

2. The candidate opting for this course will not be eligible for admission to M.A./M.Sc. Statistics.

3. There is one paper with code 201AS in B.A./B.Sc. Semester-III having a total of 100 marks.

4. 9 Lectures of 45 minutes each per week shall be allotted for the teaching.

PAPER - 201AS: MATHEMATICAL METHODS - II

Maximum Marks : 100
Theory : 90
Internal Assessment : 10
Time allowed : 3 hours

Objective: The objective of the course is to provide an exposure to the Coordinate Geometry of three dimensions, Calculus of several variables and theory of Matrices.

Note: There will be in all nine (9) questions. The first question is compulsory and will be of short answer type covering the whole syllabus. This question will have (9) parts of 2 marks each. Of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidates will be required to attempt five (5) questions in all including the compulsory first question and two questions from each Unit.

UNIT-I

Coordinate Geometry of 3 Dimensions: Cartesian, spherical coordinates, equations of line, plane, sphere and ellipsoid.

Matrices and Linear Algebra: Determinants, algebra of matrices, rank of a matrix, inverse of a matrix, symmetric matrices (upto $4 \times 4$ matrices only).

UNIT-II

Matrices and Linear Algebra: Systems of Linear equations and their solutions.

Calculus of Several Variables: Functions of two variables, Partial derivatives and double integrals. Applications to evaluation of area.
Books Prescribed


Books suggested for supplementary Reading


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APPLIED STATISTICS

SEMESTER-IV

Note:
1. This course shall not be opted for along with courses in B.A./B.Sc Mathematics and/or B.A./B.Sc. Statistics.
2. The candidate opting for this course will not be eligible for admission to M.A./M.Sc. Statistics.
3. There is one paper with code 202AS in the subject of Applied Statistics in B.A./B.Sc. Semester IV, having a total of 100 marks.
4. 9 Lectures of 45 minutes each per week shall be allotted for the teaching.

PAPER- 202AS: STATISTICAL METHODS

Maximum Marks : 100
Theory : 90
Internal Assessment : 10
Time allowed : 3 hours

Objective: The objective of the course is to make the students conversant with various techniques used in summarization and analysis of data. The focus will be both on theoretical as well as practical approach.

Note:
1. There will be in all nine (9) questions. The first question is compulsory and will be of short answer type covering the whole syllabus. This question will have (9) parts of 2 marks each. Of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidates will be required to attempt five (5) questions in all including the compulsory first question and two questions from each Unit.
2. Simple non-programmable calculator is allowed.
3. Statistical tables and log tables will be provided on request.

UNIT-I

Compilation, classification, tabulation and diagrammatic representation of statistical data. Concepts of Statistical population, random sample and frequency curve, measures of location, dispersion, skewness and kurtosis.

Two dimensional random variable, joint probability distributions, marginal and conditional probability distributions, conditional expectation, covariance and correlation coefficient.
UNIT-II

Measures of association and contingency, correlation and linear-regression involving two variables. Bivariate normal distributions.

Statement of weak law of large numbers and central limit theorem for independent and identical random variables. Sampling distributions of means, chi-square, t and F in sampling from normal populations (without proof).

Books recommended


: Fundamentals of Statistics, Vol.1 Chapter 1 to 6, 9, 10, 13 (only the relevant portion from these chapters as suggested by the body of the syllabus).

PHYSICS

B.Sc. (GENERAL) SECOND YEAR (3rd and 4th Semester) EXAMINATION, 2018-19

General Instructions for teachers, students and paper setters:

1. There will be three papers of theory and one laboratory (practical course). Each of the theory papers is allocated 25 marks including 3(three) marks for the Internal Assessment. The Practical examination is of 25 marks including 3 (three) marks for the Internal assessment. The exams will be conducted every semester.

2. The number of lectures per week will be three for each theory paper and six for practicals.

3. The examination time for each theory paper as well as practical paper will be three hours.

4. Each theory paper will consist of seven questions comprising of three sections. First two sections will comprise of three questions from each of Units I and II of syllabus, and the third section will comprise of one compulsory question of ten short answer type parts covering whole syllabus. The question paper will be set for 44 marks - All the questions in first and second sections will carry 9 (nine) marks each and the compulsory question will carry 8 marks. Student will attempt two questions from each of the first two sections and any eight parts of the compulsory questions. After evaluation of the answer books out of 44 marks, the marks will be given out of 22 marks.

5. The numerical problems/exercises in the question paper should be 25-30%.

6. The use of Non-programmable calculators will be allowed (paper setter should explicitly mention this in the question paper) in the examination centre but these will not be provided by the University/College. Mobile phones and pages are not allowed in the examination hall.

7. External examiners will be sent for Practical examinations.
PHYSICS

SEMESTER-III

Papers, marks and teaching hours allocation:

<table>
<thead>
<tr>
<th>Paper A</th>
<th>Statistical Physics and Thermodynamics – I</th>
<th>Total Teaching hrs. 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper B</td>
<td>Optics and Lasers –I</td>
<td>Total Teaching hrs. 30</td>
</tr>
<tr>
<td>Paper C</td>
<td>Quantum Physics-I</td>
<td>Total Teaching hrs. 30</td>
</tr>
<tr>
<td></td>
<td>Physics Practicals</td>
<td>Total Teaching hrs. 45</td>
</tr>
</tbody>
</table>

Paper A : STATISTICAL PHYSICS AND THERMODYNAMICS-I (30 Hrs.)

UNIT-I

Basic ideas of Statistical Physics, Scope of Statistical Physics, basic ideas about probability, distribution of four distinguishable particles in two compartments of equal size. Concept of macrostates, microstates, thermodynamic probability, effects of constraints on the system, distribution of n particles in two compartments, deviation from the state of maximum probability, equilibrium state of dynamic system, distribution of distinguishable n particles in k compartments of unequal sizes.

UNIT-II


Books Suggested:

Essential Readings:

Further Readings:
Paper-B: OPTICS AND LASERS-I

(30 Hrs.)

UNIT-I


UNIT-II

Diffraction: Huygen-Fresnal theory half period zones, zone plates. Distinction between Fresnel and Fraunhofer diffraction. Fraunhofer diffraction due to single slit and intensity distribution, double slits & multiple slits (qualitative). Fraunhofer diffraction at rectangular (qualitative discussion) and circular apertures. Effects of diffraction in optical imaging, resolving power of microscope and telescope, diffraction grating, its use as a spectroscopic element, resolving power, Moiré’s fringes.

Polarization: Concept and analytical treatment of unpolarised, plane polarized and elliptically polarized light. Double refraction, Nicol prism, sheet polarisers, retardation plates. Production and analysis of polarized light (quarter and half wave plates).

Books Suggested:

Essential Readings:
1. Optics, Jenkins and White, McGraw Hill.
2. Optics, Ajoy Ghatak, McMillan India.

Further Readings:
1. Optics, Born and Wolf, Pergamon.
Paper-C : QUANTUM PHYSICS-I (30 Hrs.)

UNIT-I

Formalism of Wave Mechanics :

(i) Planck’s’s formula of Black body radiation and energy quantization,
Wave-particle duality – Photoelectric effect, X-ray diffraction, Compton effect, Pair production, Photon and gravity.
De Broglie waves, wave packet, Phase velocity and Group velocity, Electron microscope, Particle in a box, Particle diffraction, Davisson-Germer experiment, Interferferometry with particles.
Uncertainty principle with illustrations, Principle of complementarity. (Chapters 2 and 3 of book 1 or Chapters 1-3 of book 2)

(ii) Quantum mechanics, Wave equation, Plausible arguments leading to time-dependent Schrodinger equations, Born’s interpretation of Wave function, complex character, continuity and boundary conditions, probability interpretation, normalization, Probability current, Probability conservation equation, Principle of superposition.


UNIT-II

Problems in One and Three Dimensions :

(a) Steady-state Schrodinger equation, Application to stationary states for one dimension, Potential step, potential barrier, Tunnel effect examples, Scanning Tunneling microscope, rectangular potential well, Linear harmonic oscillator. (Chapter 5 of book 1 and book 2)

(ii) Schrödinger equation for spherically symmetric potential, spherical harmonics, hydrogen atom energy levels and eigenfunctions, Principal, Orbital and Magnetic quantum numbers, Electron probability density. (Chapter 6 of book 1 and book 2)

Books Suggested :

Essential Readings :

Further Readings :
PHYSICS PRACTICALS

The students are required to perform all the Nine experiments from each of the Units I and Unit II. The Practical examination will be held along with the fourth semester examination.

The aim of the project work is to develop the scientific and technical temper in the students and as such it may consist of development of a laboratory experiment, fabrication of a device or electronic circuit etc. The student will prepare a project report of about 10 pages. Assessment of the project work will be done on the basis of the effort put in the execution of the project, report prepared and viva-voce.

General Guidelines for Physics Practical Examinations:

1. The distribution of marks is as follows:
   (i) One full experiment out of section–A requiring the student to take some data, analyse it and draw conclusions. (Candidates are expected to state their results with limits of error). 20
   (ii) One exercise based on experiment or Computer Programming from the Unit assigned to the student for the semester 7
   (iii) Viva-Voce and Record (Practical file) 10
   (iv) Project 8
   (v) Internal Assessment 5

Note for Examiners:

2. The marks scored under each head must be clearly written on the answer sheet.
3. There will be one session of 3 hours duration. The paper will have two sections. Section–A will consist of 4 experiments from each of Units I and Unit II, out of which an examinee will mark 3 experiments from either of units and one of these is to be allotted by the external examiner.
4. Section–B will consist of exercises/computer based activities which will be set by the external examiner on the spot. The length of the exercises should be such that any of these could be completed in one hour.
5. The examiner should take care that the experiment allotted to an examinee from section-A and exercise allotted from section–B are not directly related to each other.
6. Number of candidates in a group for practical examination should not exceed 20.
7. In a single group, no experiment be allotted to more than three examinees in the group.
List of Experiments:

UNIT-I

A. Statistical Physics and Thermodynamics:
   I. To study adiabatic expansion of a gas.
   II. To measure thermal expansion of crystal using interference fringes.
   III. To measure thermal conductivity in poor conductor by Lee’s method.
   IV. Thermoelectric calibration, comparison.
   V. Total radiation law, temperature dependence of radiation.
   VI. To study Probability distribution using coloured dice, coins.

B. Optics and Lasers:
   VII. To determine the refractive index of a liquid using spectrometer.
   VIII. To determine the Cauchy’s constants.
   IX. To study the refractive index of a doubly refracting prism.
   X. Study of rotation of plane of polarization with a polarimeter.
   XI. To determine the wave length of a given light using biprism.

Exercises:
   1. To measure the thermo e.m.f.
   2. To determine the heating efficiency of an electric kettle with varying voltages.
   3. To measure the angle of rotation of plane of polarization for the given liquid.
   4. To determine the least count and setup the spectrometer for minimum deviation position of the prism.

Computer Based Activities: Elementary C language programs.
   1. Motion of particle in a central force field.
   2. Calculation of days between two dates of a year.
   3. To check if triangle exists and the type of the triangle.

UNIT-II

C. Optics and Lasers:
   I. To determine the wave length and dispersive power using plane diffraction grating (use Hg source).
   II. To determine the resolving power of a telescope.
   III. To determine the resolving power of a grating.
   IV. Set up Newton’s rings to determine wave length of sodium light.
   V. To measure an inaccessible height using sextant.
   VI. To determine the principal points of a lens system.
   VII. To determine the divergence and wave length of a given laser source.
D. Quantum Physics:

VIII. To study the Photoelectric effect and determine the value of Planck’s constant.
IX. To study the gas discharge spectrum of hydrogen.
X. To study the absorption spectra of iodine vapours.
XI. To determine the ionization potential of mercury.

Exercises:

1. To measure the diameter of Newton’s rings.
2. Study of variation of light intensity using photovoltaic cell/inverse square law.
3. To determine the angle of wedge using interference method.
4. To measure the angle of elevation of a tall building.

Computer Based Activities: Elementary C language programs.

1. To find the sum of the sine and cosine series and print out the curve.
2. To find Sum and Product of Matrices
3. Motion of a projectile using computer simulation.

Text and Reference Books:

2. B.Sc. Practical Physics, C.L. Arora (S. Chand) & Co. (2014)
PHYSICS

SEMESTER – IV

Papers, marks and teaching hours allocation:

<table>
<thead>
<tr>
<th>Paper A</th>
<th>Statistical Physics and Thermodynamics – II</th>
<th>Total Teaching hrs. 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper B</td>
<td>Optics and Lasers –II</td>
<td>Total Teaching hrs. 30</td>
</tr>
<tr>
<td>Paper C</td>
<td>Quantum Physics-II</td>
<td>Total Teaching hrs. 30</td>
</tr>
<tr>
<td></td>
<td>Physics Practicals</td>
<td>Total Teaching hrs. 45</td>
</tr>
</tbody>
</table>

Paper A : STATISTICAL PHYSICS AND THERMODYNAMICS-II (30 Hrs.)

UNIT-I


UNIT-II


Books Suggested :

Essential Readings:

1. “Statistical Physics and Thermodynamics”, V.S. Bhatia, (Shoban Lal Nagin Chand, Jalandhar)

Further Readings :

1. Thermal Physics by C. Kittel & H. Kroemer, CBS Pub., 1987
Paper-B : OPTICS AND LASERS-II (30 Hrs.)

UNIT-I

Laser Fundamentals :
Interaction of light with matter : Absorption, spontaneous emission, stimulated emission, Wave mechanical explanation, Properties of Spectral Lines, Temporal and spatial coherence, Characteristics of stimulated emission, Einstein coefficients and their relations, Light amplification and threshold condition, Population inversion, Kinetics of optical absorption (qualitative account only), Qualitative account of Collisional broadening, Doppler broadening & Natural broadening, Mechanism of Luminescence.
Lasing action, Components of Laser, Elementary theory of optical cavity, longitudinal and transverse modes, Principal pumping schemes, Three level and four level laser schemes.

UNIT-II

Applications of lasers—a general outline, Holography. Principle, recording of hologram and reconstruction of image.
Fiber Optics : Photonics, Optical fibre, Construction, Numerical aperture, acceptance angle, skip distance, Step index fibre – single mode and multimode, Graded index fibre, Losses in optical fibre, Material losses and Rayleigh scattering, bending losses, Intermodal and intramodal dispersion.
Splicing techniques, Optical fibre based communication system, Medical applications.

Books Suggested :

Essential Readings :

4. Optical Fiber Communication, Keiser, MH.

Further Readings :

1. Lasers, Svelto Pergmon.
Paper-C : QUANTUM PHYSICS-II

UNIT-I

Radiative transitions, selection rules and life times,
Spectrum of hydrogen atom.
Normal Neeman effect and experiment, Degeneracy of H-atom energy levels, fine structure, Electron angular
momentum, Larmor’s frequency, electron spin angular momentum, Exclusive principle, Stern-Gerlach
experiment, spin-orbit coupling, electron magnetic moment, total angular momentum, Hyperfine structure,
examples of one electron systems, Anomalous Zeeman effect, Lande-g factor (sodium D-lines). Paschen-
Back Effect, Stark Effect.

(Chapters 6 & 7 of Book 1, Chapters 8-10 of Book 2)

UNIT-II

Symmetric and Antisymmetric wave functions, exclusion principle, Many electron atoms, Slater determinant,
Electronic configurations, Hund’s rule, Spin-Orbit coupling, L-S coupling, J-J couplings, term symbols.
Atomic spectra of H, Na, He and Hg, selection rules.
X-ray spectra, nomenclature, Selection rules, Mosley law, Auger effect.
Molecular bonding, \( \text{H}_2^+ \) ion and \( \text{H}_2 \) molecules, Complex molecules, molecular spectra, selection rules,
symmetric structures, rotational vibrational levels and spectra of diatomic molecules,vibration-rotation
spectra, electronic spectra of molecules, Franck Condon principle, fluorescence and phosphorescence, Raman
Effect, Magnetic resonance experiments.

(Chapters 7 & 8 of Book 1, Chapter 12 of Book 2)

Books Suggested :

Essential Readings :


Further Readings :

2. *Atomic and Molecular Spectra*, Rajkumar (Kedarnath Ramnath Prakashan, Meerut).

PHYSICS PRACTICALS

The Practical examination will be held along with the fourth semester examinations. General Guidelines
for Physics Practical Examinations and syllabus is given in syllabus for Semester III.
## CHEMISTRY

**B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2018-19**

### Scheme of Teaching and Examination

#### SEMESTER-III

<table>
<thead>
<tr>
<th>Paper</th>
<th>Course</th>
<th>Teaching Hrs.</th>
<th>Max. Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>IX</td>
<td>Inorganic Chemistry-A</td>
<td>30</td>
<td>3 periods per week</td>
</tr>
<tr>
<td>X</td>
<td>Organic Chemistry-A</td>
<td>30</td>
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<tr>
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<td>Laboratory Practicals</td>
<td>6</td>
<td>6 periods per week</td>
</tr>
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</table>

Total 15 periods/week 100

#### SEMESTER-IV

<table>
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<th>Course</th>
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<th>Max. Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIII</td>
<td>Inorganic Chemistry-B</td>
<td>30</td>
<td>3 periods per week</td>
</tr>
<tr>
<td>XIV</td>
<td>Organic Chemistry-B</td>
<td>30</td>
<td>3 periods per week</td>
</tr>
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<td>30</td>
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Total 15 periods/week 100

### Total Marks

<table>
<thead>
<tr>
<th>Semester</th>
<th>Marks</th>
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<tbody>
<tr>
<td>III</td>
<td>100</td>
</tr>
<tr>
<td>IV</td>
<td>100</td>
</tr>
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</table>

200
CHEMISTRY

SEMESTER-III

<table>
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<tr>
<td>XII</td>
<td>Laboratory Practicals</td>
<td>6</td>
<td>6 periods per week</td>
</tr>
</tbody>
</table>

Total 15 periods/week 100

Paper-IX: INORGANIC CHEMISTRY-A

Time : 3 Hrs
Max. Marks : 22+3
60 Hrs. (2 Hrs/Week)
3 Periods/Week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I

Chemistry of Elements of First Transition Series:
Characteristic properties of d-block elements.

Properties of the elements of the first transition series, their simple compounds and complexes, illustrating relative stability of their oxidation states, coordination number and geometry.

UNIT-II

Chemistry of Elements of Second and Third Transition Series:
General characteristics, comparative treatment with their 3d-analogues in respect of ionic radii, oxidation states, magnetic behaviour, spectral properties and stereochemistry.

UNIT-III

Chemistry of Coordination Compounds-I
Werner’s coordination theory and its experimental verification, effective atomic number concept, chelates, nomenclature of coordination compounds, isomerism in coordination compounds

UNIT-IV

Chemistry of Coordination Compounds-II
Valence bond theory of transition metal complexes. Properties of Coordination compounds i.e. magnetic properties, colours (Qualitative approach only), use of coordination compounds.
Instructions for paper setters and candidates:

i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.

ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.

iii. Compulsory question carries six marks and remaining all questions carry four marks each.

Books Suggested


Paper-X: ORGANIC CHEMISTRY-A

Time : 3 Hrs
Max. Marks : 22+3
60 Hrs. (2 Hrs/Week)
3 Periods/Week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.
UNIT-I (8 Hrs.)

**Alcohols and Phenols:**
Classification and nomenclature


UNIT-II (8 Hrs.)

**Aldehydes and Ketones I**
Nomenclature and structure of the carbonyl group. Synthesis of aldehydes and ketones with particular reference to the synthesis of aldehydes from acid chlorides, synthesis of aldehydes and ketones using 1,3-dithianes, synthesis of ketones from nitriles and from carboxylic acids. Physical properties.

UNIT-III (7 Hrs.)

**Aldehydes and Ketones-II**
Mechanism of nucleophilic additions to carbonyl group with particular emphasis on benzoin, aldol, Perkin and Knoevenagel condensations. Condensation with ammonia and its derivatives. Wittig reaction, Mannich reaction.

Use of acetics as protecting group. Oxidation of aldehydes, Baeyer-Villiger oxidation of ketones, Cannizzaro reaction, MPV, Clemmensen, Wolff-Kishner, LiAlH₄ and NaBH₄ reductions.

UNIT-IV

**Carboxylic Acids:** (7 Hrs.)

Methods of formation and chemical reactions of unsaturated monocarboxylic acids.

Dicarboxylic acids: Methods of formation and effects of heat and hydrating agents.

**Instructions for paper setters and candidates:**

i. **Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.**

ii. **The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.**

iii. **Compulsory question carries six marks and remaining all questions carry four marks each.**
Books suggested


Paper-XI: PHYSICAL CHEMISTRY-A

Time: 3 Hrs.
Max. Marks: 22+3
60 Hrs. (2 Hrs./Week)
3 Periods/Week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I

Liquid State:
Intermolecular forces, structure of liquids (a qualitative description).
Structural differences between solids, liquids and gases.
Liquid Crystals: Difference between liquid crystal, solid and liquid. Classification, structure of nematic and cholesteric phases. Thermography and seven segment cell.

UNIT-II

Chemical Equilibrium:
Equilibrium constant and free energy. Thermodynamic derivation of law of mass of mass action. Le Chatelier’s principle.
Reaction isotherm and Reaction isochore-Clapeyron equation and Clausius–Clapeyron equation, applications.

UNIT-III

Thermodynamics-II:
Concept of Entropy: Entropy as a state function, entropy as a function of V & T, entropy as a function of P & T, entropy change in physical change, Clausius inequality, entropy as a criteria of spontaneity and equilibrium. Entropy change in ideal gases and mixing of gases.

UNIT-IV (7 Hrs.)

Thermodynamics-III:
Third Law of Thermodynamics: Nernst heat theorem, statement and concept of residual entropy, evaluation of absolute entropy from heat capacity data. Gibbs and Helmholtz functions; Gibbs function (G) and Helmholtz functions (A) as thermodynamic quantities, A & G as criteria for thermodynamic equilibrium and spontaneity, their advantage over entropy change. Variation of G and A with P, V and T.

Instructions for paper setters and candidates:

i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.

ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.

iii. Compulsory question carries six marks and remaining all questions carry four marks each.

Books suggested

Paper-XII: LABORATORY PRACTICALS

**Inorganic Chemistry**

**Quantitative Analysis**

**Volumetric Analysis**:
- a) Estimation of calcium content in chalk as calcium oxalate by permanganometry.
- b) Estimation of hardness of water by EDTA.
- c) Estimation of ferrous and ferric by dichromate method.
- d) Estimation of copper using sodium thiosulphate

**Gravimetric Analysis**

Analysis of Cu as CuSCN and Ni as Ni (dimethylglyoxime).

**Physical Chemistry**

**Thermochemistry**:
- a) To determine the solubility of benzoic acid at different temperatures and to determine $\Delta H$ of the dissolution process.
- b) To determine the enthalpy of neutralization of a weak acid/weak base versus strong base/strong acid and determine the enthalpy of ionization of the weak acid/weak base. pH of a Buffer solution, Determination of ionization constant of a weak acid.

**General Instruction to the Examiners:**

Note: Practical examination will be of four hours duration & shall consist of the following questions:

Q.No. I. Inorganic Chemistry : 09 marks
Q.No. II. Physical Chemistry : 06 marks
Q.No. III. Viva-Voce : 04 marks
- Ask four questions (2 marks each) related to chemistry practicals.
Q.No. IV. Note Book : 03 marks

**Books Suggested (Laboratory Courses)**


CHEMISTRY
SEMMESTER-IV

<table>
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<th>Course</th>
<th>Teaching Hrs.</th>
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<tbody>
<tr>
<td>XIII</td>
<td>Inorganic Chemistry-B</td>
<td>30</td>
<td>22+3 internal assessment</td>
</tr>
<tr>
<td>XIV</td>
<td>Organic Chemistry-B</td>
<td>30</td>
<td>22+3 internal assessment</td>
</tr>
<tr>
<td>XV</td>
<td>Physical Chemistry-B</td>
<td>30</td>
<td>22+3 internal assessment</td>
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<td>XVI</td>
<td>Laboratory Practicals</td>
<td>6</td>
<td>22+3 internal assessment</td>
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</table>

Total 15 periods/week 100

Paper-XIII: INORGANIC CHEMISTRY-B

TIME: 3 Hrs
Max. Marks: 22+3
60 Hrs. (2 Hrs/Week)
3 Periods/Week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I (8 Hrs.)

Chemistry of Lanthanide Elements:
Electronic structure, oxidation states and ionic radii and lanthanide contraction, complex formation, occurrence and isolation, lanthanide compounds.

Chemistry of Actinides:
General features and chemistry of actinides, chemistry of separation of Np, Pu and Am from U, similarities between the later actinides and the later lanthanides.

UNIT-II (7 Hrs.)

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

UNIT-III (8 Hrs.)

Oxidation and Reduction:
UNIT-IV

(7 Hrs.)

Non-aqueous Solvents:
Physical properties of a solvent, types of solvents and their general characteristics, reactions in non-aqueous solvents with reference to liquid NH₃ and liquid SO₂.

Instructions for paper setters and candidates:

i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.

ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.

iii. Compulsory question carries six marks and remaining all questions carry four marks each.

Books Suggested

Paper-XIV: ORGANIC CHEMISTRY-B
Time : 3 Hrs
Max. Marks : 22+3
60 Hrs. (2 Hrs/Week)
3 Periods/Week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I            (8 Hrs.)

Carboxylic Acid Derivatives:

Preparation of carboxylic acid derivatives, chemical reactions. Mechanisms of esterification and hydrolysis (acidic and basic).

UNIT-II           (8 Hrs.)

Ethers, Epoxides Fats, Oils and Detergents:
Nomenclature of ether and methods of their formation, physical properties. Chemical reaction-cleavage and autoxidation, Ziesel’s method.

Synthesis of epoxides. Acid and base-catalyzed ring opening of epoxides, orientation of epoxide ring opening, reactions of Grignard and organolithium reagents with epoxides.

Natural fats, edible and industrial oils of vegetable origin, common fatty acids, glycerides, hydrogenation of unsaturated oils. Saponification value, iodine value, acid value. Soaps, synthetic detergents; alkyl and aryl sulphonates.

UNIT-III             (7 Hrs.)

Organic Compounds of Nitrogen:

Structure and nomenclature of amines, physical properties. Stereochemistry of amines, Separation of a mixture of primary, secondary and tertiary amines. Structural features effecting basicity of amines. Amine salts as phase-transfer catalysts. Preparation of alkyl and aryl amines (reduction of nitro compounds, nitriles); reductive amination of aldehydic and ketonic compounds. Gabriel-phthalimide reaction, Hofmann bromamide reaction.
Heterocyclic Compounds: (7 Hrs.)


Instructions for paper setters and candidates:

i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.

ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.

iii. Compulsory question carries six marks and remaining all questions carry four marks each.

Books suggested

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I

Phase equilibrium:
Statement and meaning of the terms – phase, component and degree of freedom, derivation of Gibbs phase rule, phase equilibria of one component system—water, CO$_2$ and S systems.

Phase equilibria of two component system –solid –liquid equilibria, simple eutectic – Bi-Cd system, desilverisation of lead.

Solid solutions—compound formation with congruent melting point (Mg-Zn) and incongruent melting point, (NaCl-H$_2$O) system. Freezing mixtures, acetone-dry ice.


Nernst distribution law-thermodynamic derivation, applications.

UNIT-II

Electrochemistry –I:
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.

UNIT-III

Electrochemistry-II:
UNIT-IV

(7 Hrs.)

Electrolytic and Galvanic cells – reversible and irreversible cells, conventional representation of electrochemical cells.


Concentration cell with and without transport, liquid junction potential, application of concentration cells, valency of ions, solubility product and activity coefficient, potentiometric titrations.

Instructions for paper setters and candidates:

i. **Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.**

ii. **The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.**

iii. **Compulsory question carries six marks and remaining all questions carry four marks each.**

Books suggested

Paper-XVI  LABORATORY PRACTICALS

Organic Chemistry
Laboratory Techniques:
  a) Determination of $R_f$ values and identification of organic compounds. Separation of isometric mixture of Ortho and paranitroaniline using hexane and ethyl acetate (8.5 : 1.5) by thin layer chromatography.
  b) Extraction of caffeine from tea leaves.

Qualitative Analysis:
Detection of elements (N, S and halogens) and functional groups (phenolic, carboxylic, carbonyl, esters, carbohydrates, amines, amides, nitro and anilide), in simple organic compounds.

General Instruction to the Examiners:
Note: Practical examination will be of four hours duration & shall consist of the following questions:
Q.No. I. Organic Chemistry: (analysis of organic compound) : 09 marks
Q.No II. TLC experiment, Extraction of caffeine) : 06 marks
Q.No. III. Viva-Voce : 04 marks
  Ask four questions (2 marks each) related to chemistry practicals.
Q.No. IV. Note Book : 03 marks

Books Suggested (Laboratory Courses)

******************
## BOTANY

**B.Sc. (GENERAL) SECOND YEAR (3\textsuperscript{rd} and 4\textsuperscript{th} Semester) EXAMINATION, 2018-19**

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Time</th>
<th>Theory</th>
<th>Int Asses.</th>
<th>Max Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory Paper-A: Diversity of Seed Plants and their Systematics-I</td>
<td>3 hrs.</td>
<td>36</td>
<td>04</td>
<td>40</td>
</tr>
<tr>
<td>Theory Paper-B: Structure, Development and Reproduction in Flowering Plants-I</td>
<td>3 hrs</td>
<td>36</td>
<td>04</td>
<td>40</td>
</tr>
</tbody>
</table>

One practical pertaining to entire syllabus included in both theory papers

<table>
<thead>
<tr>
<th>Fourth Semester</th>
<th>Time</th>
<th>Theory</th>
<th>Int Asses.</th>
<th>Max Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory Paper-A: Diversity of Seed Plants and their Systematics-II</td>
<td>3 hrs</td>
<td>36</td>
<td>04</td>
<td>40</td>
</tr>
<tr>
<td>Theory Paper-B: Structure, Development and Reproduction in Flowering Plants-II</td>
<td>3 hrs</td>
<td>36</td>
<td>04</td>
<td>40</td>
</tr>
</tbody>
</table>

One practical pertaining to entire syllabus included in both theory papers

| Total | 200 |

**Note:**

1. The number of teaching hours for theory and practical per semester shall be 60 hrs. and 100 hrs. respectively.

2. There will be two theory papers (A&B) in each semester. Each paper will consist of nine questions. Question No.1 will be compulsory and will consist of 12 parts (one mark each) comprising 6 MCQ and the rest 6 parts will be of fill-in the blanks covering the entire syllabus in both the theory papers A&B. The remaining 8 questions in papers A&B shall include two questions from each unit. Candidates shall be required to attempt one question from each unit. Question No. 1 will carry 12 marks and the rest of 8 questions will be of 6 marks each.
THEORY PAPER- A: DIVERSITY OF SEED PLANTS AND THEIR SYSTEMATICS- I

Objective: This paper deals with highly advance and evolved group of plants with naked seeds i.e. Gymnosperms. The course work of this paper gives a fair idea about the general features, economic importance and study of fossil as well as living gymnosperms.

Teaching Methodology: Teaching methodology includes series of lectures making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc. Students will be taken for field excursions to various hill stations/forests to familiarize them with the flora of the area covering various plant forms.

UNIT-I

General characteristics and economic importance of gymnosperms; differences between gymnosperms and angiosperms; differences between manoxylic and pycnoxylic wood.

UNIT-II

Fossil gymnosperms : Brief account of fossils , their formation and types (excluding details).
*Lyginopteris*: Introduction, external structure of stem; internal structure of primary stem, root and leaf; reproduction.
*Williamsonia*: Introduction, external morphology; internal structure; reproductive organs, male and female flowers.

UNIT-III

Structure, reproduction (male and female strobilus; structure of ovule; development of male and female gametophytes; pollination, fertilization, development of embryo and structure of seed) and life cycle of *Cycas*.

UNIT-IV

Structure, reproduction (male and female strobilus; structure of ovule; development of male and female gametophytes; pollination, fertilization, development of embryo and structure of seed) and life cycle of:

a) *Pinus*
b) *Ephedra*
Suggested Reading:


PAPER –B: STRUCTURE, DEVELOPMENT AND REPRODUCTION IN FLOWERING PLANTS-I

Objective: This paper deals with the basic body plan and diversity in flowering plant forms. The course work of this paper covers vegetative and reproductive morphology of these plants and will familiarize the students with plants bearing the enclosed seeds.

Teaching Methodology: Teaching methodology includes series of lectures making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT-I

The basic body plan of a flowering plant.
Diversity in plant form in annuals, biennials and perennials.
Root system: Tap root and adventitious root system and their various types; structural and anatomical modifications for storage, respiration and reproduction.

UNIT-II

Stem: Modifications of aerial and underground stem.
Leaf: Venation, phyllotaxy, simple and compound leaves, functions and modifications; internal structure (dicot and monocot leaves).

UNIT-III

Flower: As a modified shoot, functions; structure of anther and pistil; structure and development of male and female gametophytes.

UNIT-IV

Double fertilization and its significance; different types of ovules and embryo-sacs.
Suggested Reading:


Suggested laboratory exercises:

1. **Cycas**:
   i) Habit, armour of leaf bases on the stem, young and old foliage leaves, scale leaves, male cone, megasporophyll, seed.
   ii) Preparation of permanent stained slides of *Cycas* (T.S. leaflet, rachis and coralloid root).

2. **Pinus**:
   i) Dwarf shoot; Male cone; Female cones (first year, second year and third year); Seed.
   ii) Preparation of permanent slide of T.S. needle and pollen grains.
   iii) Study through permanent slides:
      a) L.S. male cone
      b) L.S. female cone
      c) L.S. ovule

3. **Ephedra**:
   i) Habit and structure of male and female cones
   ii) Preparation of permanent slide of T.S. stem (young).
   iii) Study through permanent slides:
      a) L.S. female cone
      b) L.S. male cone
4. Modifications of underground stem and leaf modifications.

5. Study through permanent slides:
   i) V.S. dicot leaf
   ii) V.S. monocot leaf

Guidelines for Botany Practical Examination

Max. Marks: 20
Practical: 18
Int. Assess.: 02
Time: 3 hours

1. Cut T.S. of specimen A. Make its permanent stained slide. Identify, draw its well labeled diagram and show it to the examiner. 6

2. Identify, write illustrated morphological note on specimen B (from gymnosperms) and C from underground stem/leaf modifications. 4

3. Identify slides D and E giving at least two reasons. 4

4. Practical note book and Viva-voce 2+2=4
PAPER-A: DIVERSITY OF SEED PLANTS AND THEIR SYSTEMATICS-II

Objectives: This paper deals with highly advance and evolved group of plants i.e. Angiosperms. The study of gradual transition from seedless plants to seed plants would make students familiar with origin of structural and functional complexity in plant kingdom. The systematics part of this paper is in fact backbone of the study of Botany. Without having knowledge of taxonomy and species concept, no further research work can be pursued. The identification, nomenclature and classification of the concerned plants make the first step of any research work in Botany.

Teaching Methodology: Teaching methodology includes series of lectures making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc. Students will be taken for field excursions to various hill stations/forests to familiarize them with the flora of the area covering various families of flowering plants.

UNIT-I

General characters of Angiosperms. Plant nomenclature and International Code of Botanical Nomenclature: Common names and scientific names, principles and rules; taxonomic ranks; type concept (Holotype, Isotype, Syntype, Paratype, Lectotype, Neotype and Topotype); principle of priority, aims and objectives of plant taxonomy.

A brief account of Bentham and Hooker’s System of classification, its merits and demerits.

UNIT-II

Terminology pertaining to floral description.

General account and diagnostic features of the following families (excluding economic importance):

<table>
<thead>
<tr>
<th>Family</th>
<th>Genus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liliaceae</td>
<td><em>Asphodelus/Asparagus</em></td>
</tr>
<tr>
<td>Gramineae (Poaceae)</td>
<td><em>Triticum</em></td>
</tr>
<tr>
<td>Ranunculaceae</td>
<td><em>Ranunculus</em> and <em>Delphinium</em></td>
</tr>
<tr>
<td>Brassicaceae</td>
<td><em>Brassica</em></td>
</tr>
</tbody>
</table>

UNIT-III

General account and diagnostic features of the following families (excluding economic importance):

<table>
<thead>
<tr>
<th>Family</th>
<th>Genus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rutaceae</td>
<td><em>Citrus</em> and <em>Murraya</em></td>
</tr>
<tr>
<td>Malvaceae</td>
<td><em>Hibiscus</em></td>
</tr>
<tr>
<td>Fabaceae</td>
<td><em>Lathyrus, Cassia</em> and <em>Acacia</em></td>
</tr>
<tr>
<td>Umbelliferae (Apiaceae)</td>
<td><em>Coriandrum</em></td>
</tr>
</tbody>
</table>
UNIT-IV

General account and diagnostic features of the following families (excluding economic importance):

- **Compositae (Asteraceae)**: *Helianthus/Ageratum*
- **Asclepiadaceae**: *Calotropis*
- **Solanaceae**: *Solanum and Petunia*
- **Labiatae (Lamiaceae)**: *Ocimum*
- **Chenopodiaceae**: *Chenopodium*

**Suggested Readings:**

PAPER-B: STRUCTURE, DEVELOPMENT AND REPRODUCTION IN FLOWERING PLANTS-II

Objectives: This paper deals with structure development and reproduction in flowering plants – the most fascinating group of plants on earth. The course material of this paper deals with internal structure of various plant parts, their growth patterns and abnormalities in structural development. The vast range of variation found in this group of plants provides a platform to students for acquiring basic knowledge of flowering plants which makes a foundation of applied branches like horticulture, floriculture, olericulture and arboriculture.

Teaching Methodology: Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT-I

Tissue systems: Meristematic, shoot apex, root apex; simple and complex permanent tissues, special tissues; internal structure of primary dicot stem & root (Helianthus); secondary growth in dicot stem & root (Helianthus); internal structure of monocot stem & root (Zea mays); differences between dicot stem and monocot stem; differences between dicot root and monocot root.

UNIT-II

Anomalous stem structure in Boerhaavia, Nyctanthes, Mirabilis and Dracaena.
Various methods of vegetative propagation; micropropagation, basic technique and its importance.

UNIT-III

Types of pollination, advantages and disadvantages of self and cross-pollination; contrivances for self and cross-pollination, various agencies to bring about cross-pollination, characters of flowers pollinated by different agencies.

UNIT-IV

Seed formation: Development of endosperm and embryo. Fruit development, maturation and parthenocarpy. Significance of seed: Suspended animation; ecological adaptation and dispersal strategies.

Suggested Readings:

Suggested Laboratory Exercises:

1. Preparation of permanent stained slides to show:
   a. Anomalous internal structure of stem in *Boerhaavia, Nyctanthes, Mirabilis* and *Dracaena*.
   b. T.S. dicot stem & root (*Helianthus*).
   c. T.S. monocot stem & root (*Zea mays*).
   d. Types of Placentation.

2. Description of flowers in technical terms, drawing F.D., V.S., T.S. ovary, writing F.F. and reference to their respective families of the genera mentioned in different families in theory syllabus.
Guidelines for Botany Practical Examination

Max. Marks: 20
Practical: 18
Int. Assess. 02
Time: 3 hours

1. Cut T.S. of specimen A. Make its permanent stained slide. Identify and draw its well labeled diagram and show it to the examiner. 5

2. Describe specimen B or C in technical terms and proper sequence. Draw F.D. and V.S. of flower B or C. Cut T.S. of ovary and V.S. of flower and show them to the examiner. Write F.F. also. Refer specimen B or C to its respective family. 5

3. Identify slides D and E giving at least one reason. 2

4. Practical note book 2

5. Plant Album 2

6. Viva-voce 2

*******************
ZOOLOGY

B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2018-19

SEMESTER-III

Paper I : Biodiversity (Chordates) & Evolution-I

Paper II : Biochemistry & Physiology-I

Practical : (Covering the entire syllabus) of 4 hours duration

Max. Marks                :    40  (36 + 4) marks
Theory Exam.              :    36 Marks
Internal Assessment      :    4 Marks
Time                      :    3 Hours

Total :      100 marks

Note : The number of hours for Theory and Practical per week shall be 6 hours and 4 hours respectively.

OBJECTIVES OF THE COURSE :  

The syllabus pertaining to B.Sc. (General) Part-II, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges.

The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill oriented components.

The course contents are also given due stress for excursion/field trips to Zoological Parks, Seashores, Hill Stations, Museum, Fossil Park and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars from time to time for updating the teachers.

PAPER-I : BIODIVERSITY (CHORDATES) & EVOLUTION-I (ZOO 301)

Max. Marks                :    40
Theory Exam.              :    36 Marks
Internal Assessment      :    4 Marks
Time                      :    3 Hours

Note : Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, Five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.
UNIT-I

Chordates – Origin, Parental care and migration.
Protochordates –Urochordata-Type Study – *Herdmania* except development,
Cephalochordata- Type Study – *Amphioxus* (except development)

Classification of the animals up to orders relating to the following groups along with brief ecological notes of the following:
Protochordates : *Herdmania, Molgula, Pyrosoma, Doliolum, Salpa, Oikopleura & Branchiostoma* (excluding development).

UNIT-II

Cyclostomata – External Characters of *Petromyzon* & affinities of Cyclostomata
Pisces- Scales & fins, Type study-*Labeo*.
Cyclostomata : *Myxine, Petromyzon & Ammocoetes* larva.
Chondrichthyes : *Zygaena*(Hammer headed shark), *Pristis* (saw fish), *Narcine* (electric ray), *Trygon, RHinobatus* and *Chimaera*(rabbit fish).
Actinopterygii : *Polypterus, Acipenser, Lepisosteus, Muraena, Mystus, Catla, Hippocampus, Syngnathus, Exocoetus, Anabas, Diodon, Tetradon, Echeneis* and *Solea*.
Dipneusti (Dipnoi) : *Protopterus* (lung fish)

UNIT-III

Amphibia – Type study-Hoplobatrachus Tigerinus.

Classification of the animals up to orders relating to the following groups along with brief ecological notes of the following:

UNIT-IV

Concept and evidences of organic evolution.
Theories of organic evolution.
Origin of life.

Suggested Readings


PAPER II : BIOCHEMISTRY AND PHYSIOLOGY-I (ZOO 302)

Max. Marks : 40
Theory Exam. : 36 marks
Internal Assessment : 4 marks
Time : 3 hours

Note : Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, Five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

UNIT-I

Biochemistry and its scope;
Carbohydrates, proteins, lipids and nucleic acids: their classifications and functions.

UNIT-II

Enzymes : Nature, nomenclature, mode of action, their classification, coenzymes and cofactors.

Carbohydrate metabolism : The Embden Meyerhoff, Parnas pathway (glycolysis), the tricarboxylic acid cycle, the hexose monophosphate shunt, glycogenesis and glycogenolysis.

UNIT-III

Digestion : Digestion of dietary constituents, regulation of digestive processes and absorption. extra and intra cellular digestion, enzymatic digestion and symbiotic digestion.

Respiration : Exchange and transport of respiratory gases, Oxygen dissociation curve of haemoglobin, Bohr effect, chloride shift, Haldane effect and control of breathing.

UNIT-IV

Blood : Composition and functions of blood and lymph. Function of hemoglobin, blood clotting. Blood groups including Rh. Factor.

Heart : Origin and regulation of heart beat, cardiac cycle, electrocardiogram, cardiac output, blood pressure and micro-circulation.
Suggested Readings


PRACTICALS : Practical based on Theory Papers ZOO 301 & 302 (ZOO 251)

1. Classification up to orders habits, habitats, distinctive characters and economic importance(if any) of the following animals :
   - Urochordata : *Herdmania, Molgula, Pyrosoma, Doliolum, Salpa & Oikopleura*.
   - Cephalochordata : *Amphioxus*.
   - Cyclostomata : *Myxine, Petromyzon & Ammocoetes Larva*.
   - Chondrinchthyes : *Zygaena (Hammer headed shark), Pristis (Saw fish), Narcine (Electric ray), Trygon, Rhinobatus and Chimaera (Rabbit fish)*.
   - Actinoptergii : *Polypterus, Acipenser, Lepisosteus, Muraena, Mystus, Catla, Hippocampus, Syngnathus, Exocoetus, Anabas, Diodon, Tetradon, chenes and Solea*.
   - Dipneusti (Dipnoi) : *Protopterus*.
   - Amphibia : *Uraeotyphlus, Necturus, Amphiuma, Ambystoma and its Axolotl larva, Triton, Salamandra, Hyla, Rhacophorus*.

2. Demonstrate the dissection of following animals through video clipping, charts, models etc.
   - *Herdmania* : General anatomy.
   - *Labeo* : Digestive, reproductive systems, heart, afferent and efferent branchial arteries and cranial nerves.

3. Study of the skeleton of *Labeo, Hoplobatrachus Tigerinus*(frog)
4. Study of the following prepared slides :
   - T.S. *Amphioxus* through various regions.
   - Spicules & pharynx of *Herdmania & pharynx of Amphioxus*.
5. Study of the following prepared slides :
   - Histology of frog (compound tissues).
6. Recording of blood pressure of man
7. Demonstration of equipment used for estimating haemoglobin content.
8. Demonstrate the presence of amylase in saliva, denaturation by pH and temperature.
9. Field study : Visit to a fossil Park/Museum. Familiarity with the local vertebrate fauna and report.
Guidelines for conduct of Practical Examination

Max. Marks : 20
Practical Exam. : 18 marks
Internal Assessment : 2 marks
Time : 3 hours

1. Draw a labeled sketch of --------system of given animal and explain it to the examiner. (2)

2. Identify the given bones A & B. Make labelled sketches of their respective _______views. (2)

3. Minor experiment of physiology related to blood/osmosis/diffusion. (1½)

4. Perform the given physiology experiment, write the procedure and show it to the examiner such as identification of some food stuffs/presence of chloride or glucose in urine etc./Salivary Amylase/Blood. (2)

5. Identify the slides F-H giving two reasons for each identification. (2)

6. Identify and classify the specimens F to I upto orders. Write a short note on habitat of F, special feature of G, feeding habit of H and economic importance of specimen I. (4½)

7. Viva-voce. (2)

8. Note book and Project Report. (2)


**B.A./B.Sc. (GENERAL) SECOND YEAR (SEMESTER SYSTEM) SYLLABUS**

**ZOOLOGY**

**B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2018-19**

**SEMESTER-IV**

<table>
<thead>
<tr>
<th>Paper I</th>
<th>Biodiversity (Chordates) &amp; Evolution – II</th>
<th>40 (36 + 4) marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper II</td>
<td>Biochemistry &amp; Animal Physiology-II</td>
<td>40 (36 + 4) marks</td>
</tr>
<tr>
<td>Practical</td>
<td>(Covering the entire syllabus) of 4 hours duration</td>
<td>20 (18 +2) marks</td>
</tr>
</tbody>
</table>

**Total**: 100 marks

Note: The number of hours for Theory and Practical per week shall be 6 hours and 4 hours respectively.

**OBJECTIVES OF THE COURSE**

The syllabus pertaining to B.Sc. (General) Part-II, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges.

The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill oriented components.

The course contents are also given due stress for excursion/field trips to Zoological Parks, Seashores, Hill Stations, Museum, Fossil Park and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshops/seminars from time to time for updating the teachers.

**PAPER – I: BIODIVERSITY (CHORDATES) & EVOLUTION- II (ZOO 401)**

**UNIT-I**

Reptilia- Type study- *Uromastix*, Poisonous and non-poisonous snakes, Poison apparatus in snakes.

Classification of the animals up to orders relating to the following groups along with brief ecological notes of the following:

- **Reptilia**: *Chelone* (turtle) and *Testudo* (Tortoise), *Hemidactylus* (wall lizard), *Calotes*, *Draco*, *Varanus*, *Phrynosoma*, *Chamaeleon*, *Typhlops*, *Python*, *Eryx*, *Bungarus*, *Naja*, *Hydrus*, *Vipera*, *Crocodilus*, *Gavialis* and *Alligator*.

**UNIT-II**

Aves-Type study- *Pigeon*, Flight adaptations in birds.

Classification of the animals up to orders relating to the following groups along with brief ecological notes of the following:

- **Aves**: *Ardea*, *Milvus*, *Pavo*, *Tyto*, *Alcedo*, *Eudynamis* and *Casuarius*.  

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UNIT- III

Mammals-Type study-Rat, Dentition in mammals.

Mammalia : Ornithorhynchus, Echidna, Didelphis, Macropus (Kangaroo), Loris, Macaca, Manis (Scaly ant eater), Hystrix (porcupine), Funambulus (Squirrel) Panthera, Canis, Herpestes (Mongoose), Capra, Pteropus.

UNIT-IV

Concept of micro, macro and mega-evolution.
Biological concept of species.
Fossils and dating of fossils.
Evolution of man.

Suggested Readings


PAPER II : BIOCHEMISTRY AND PHYSIOLOGY-II (ZOO 402)

Max. Marks : 40
Theory Exam. : 36 marks
Internal Assessment : 4 marks
Time : 3 hours

Note : Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, Five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.
UNIT-I

Lipid metabolism : B-oxidation of fatty acids, fate of glycerol and gluconeogenesis, interaction of carbohydrates and lipids, lipogenesis in tissues, ketosis.

UNIT-II

Protein metabolism : Metabolism of amino acids (Oxidative deamination, transamination and decarboxylation), hydrolysis of proteins and Ornithine cycle.

UNIT-III

Excretion : Structure and types of nephron, urine formation, osmoregulation and counter current mechanism, composition of urine.

Muscles : Ultrastructure, chemical and physiological basis of skeletal muscle contraction.

UNIT-IV

Neural Integration : Structure of neuron, resting membrane potential, origin and propagation of impulse along the axon, synapse and myoneural junction.

Endocrine System : Structure, hormones and functions of thyroid, parathyroid, adrenal, pineal, hypothalamus, pituitary, pancreas, gonads, thymus, hormones of alimentary canal and kidney.

Suggested Readings


PRACTICALS : Practical based on Theory Papers ZOO 401 & 402 (ZOO 252)

1. Classification up to orders habits, habitats, distinctive characters and economic importance (if any) of the following animals:
   Aves : *Casuarius*, *Ardea*, *Anas*, *Milvus*, *Pavo*, *Eudynamis*, *Tyto* and *Alcedo*.

2. Demonstrate the dissection of following animals through video clipping, charts, models etc.
   Chick : Digestive, arterial, venous and urinogenital systems.
   White Rat : Digestive, arterial, venous and urinogenital systems.

3. Study of the skeleton of *Varanus*, *Gallus* and *Rat/ Oryctolagus* (Rabbit).

4. Study of the following prepared slides:
   Histology of rat/rabbit (compound tissues)

5. Study of blood smear of a mammal.


7. Demonstration of osmosis and diffusion.

8. Analysis of urine for urea, chloride, glucose and uric acid.


10. Tracing of human evolution through models.

Field study: Visit to a fossil Park/Museum. Familiarity with the local vertebrate fauna and report.

Guidelines for conduct of Practical Examination

<table>
<thead>
<tr>
<th>Max. Marks</th>
<th>Practical Exam.</th>
<th>Internal Assessment</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>18 marks</td>
<td>2 marks</td>
<td>3 hours</td>
</tr>
</tbody>
</table>

1. Draw a labeled sketch of _______system of given animal and explain it to the examiner. (2)

2. Identify the given bones A & B. Make labelled sketches of their respective _______views. (2)

3. Minor experiment of physiology related to blood/osmosis/diffusion. (1½)

4. Perform the given physiology experiment, write the procedure and show it to the examiner such as identification of some food stuffs/presence of chloride or glucose in urine etc./Salivary Amylase/Blood. (2)

5. Identify the slides D & E giving two reasons for each identification. (2)

6. Identify and classify the specimens F to I up to orders. Write a short note on habitat of F, special feature of G, feeding habit of H and economic importance of specimen I. (4½)

7. Viva-voce. (2)

8. Note book and Project Report. (2)

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INSTRUCTIONS FOR PAPER SETTER AND STUDENTS:

1. Total No. of questions will be nine. All questions carry equal marks.
2. Q. No. 1 will be compulsory. It will consist of short questions covering the entire syllabus.
3. Besides question Number 1, there will be 4 sections of 2 questions each.
4. All other questions may contain 2-3 parts.
5. Questions should be uniformly spread over the entire syllabus.
6. Students will be required to attempt 5 questions in all including Q. No. 1 and at least one question from each of the 4 sections.

Paper A: Carbohydrate & Lipid metabolism

Objective: To learn about digestion and absorption of carbohydrates and lipids and major metabolic pathways pertaining to them.

SECTION-I

(Lectures 8)
Metabolic pathways of carbohydrates, glycolysis and alcoholic fermentation, the pentose phosphate pathway, metabolism of fructose, galactose, TCA cycle and pyruvate dehydrogenase complex.

SECTION-II

(Lectures 8)
Glucuronate and glyoxylate pathway, gluconeogenesis, cori cycle, glycogenolysis & glycogenesis, biosynthesis of starch and ascorbic acid.

SECTION-III

(Lectures 7)

SECTION-IV

(Lectures 7)
Biosynthesis and degradation of phospholipids and triglycerides. Cholesterol biosynthetic pathway. Biosynthesis of cerebrosides; sulfatides and gangliosides. Biosynthesis of prostaglandins, thromboxanes, leukotrienes, lipoxins and prostacyclins.

Books:
Paper B: Protein & Nucleic acid metabolism Marks: 45+5

Objective: To learn major metabolic pathways pertaining to nitrogenous compounds proteins & nucleic acids.

SECTION-I (Lectures 6)


SECTION-II (Lectures 8)

Catabolism of carbon skeletons of amino acids: glycine, alanine, serine and threonine, phenylalanine and tyrosine, tryptophan, histidine, leucine, valine and isoleucine, cysteine and methionine, lysine, glutamic acid and glutamine, aspartic acid and asparagine.

SECTION-III (Lectures 7)

Biosynthesis of nutritionally non-essential amino acids: glutamate and glutamine, aspartate and asparagine, proline, alanine, cysteine & selenocysteine, tyrosine, serine, glycine. conversion of amino acids to specialized products: polyamines, catecholamines, glutathione, creatinine, melanin, serotonin.

SECTION-IV (Lectures 9)

Nucleic Acids

Degradation and biosynthesis of purines and pyrimidines nucleotides, salvage pathway, formation of deoxyribonucleotides, biosynthesis and degradation of heme. Disorders of purine & pyrimidine metabolism, anticancer drugs.

Books:

PRACTICALS: Marks : 25

One Practical of three hours per week

1. Separation of serum and plasma.
2. Estimation of blood glucose by the methods of (i) Folin Wu (ii) Nelson Somogyi.
3. Separation and identification of amino acids by Paper chromatography
4. Separation of lipids by Thin layer chromatography.
5. Estimation of Ca2+ in serum.


8. Estimation of pyruvic acid.

9. Estimation of creatinine

10. Colorimetric estimation of inorganic phosphate
BIOCHEMISTRY
B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2018-19
SEMESTER-IV

INSTRUCTIONS FOR PAPER SETTER AND STUDENTS:
1. Total No. of questions will be nine. All questions carry equal marks.
2. Q. No. 1 will be compulsory. It will consist of short questions covering the entire syllabus.
3. Besides question Number 1, there will be 4 sections of 2 questions each.
4. All other questions may contain 2-3 parts.
5. Questions should be uniformly spread over the entire syllabus.
6. Students will be required to attempt 5 questions in all including Q. No. 1 and at least one question from each of the 4 sections.

Paper A: Advanced Biochemical Techniques
Marks: 45+5

Objective: To understand the principles and applications of cell biology techniques, spectroscopic, radioisotopic & spectrometry techniques.

SECTION-I
(Lectures: 8)

General Laboratory Techniques:
Membrane/ultra filtration, dialysis, diffusion, surface tension, viscosity and their applications to biological systems. Cell biology techniques: microbial, animal and plant cell/tissue culture, cell disruption/homogenization/sonication, cell sorting, cell counting, cryopreservation.

SECTION-II
(Lectures: 6)

Fluorescence spectroscopy: principle, applications of fluorescence activated cell sorting (FACS), different fluorescence in situ hybridization (FISH), fluorescence immunoassay.

SECTION-III
(Lectures: 10)

Radio isotopic techniques:

SECTION-IV
(Lectures: 6)

Nuclear magnetic resonance (NMR) and Electron spin resonance (ESR): theory, applications. atomic spectrometry; mass spectrometry: matrix assisted desorption ionization (MALDI)

Books Suggested:
Paper B: Membrane Biochemistry                    Marks: 50

Objective: to make students aware of structural and functional aspects of membranes. Highlighting the significance of their compositional heterogeneity and to various cell functions.

SECTION-I  
(Lectures 7)


SECTION –II  
(Lectures 7)


SECTION –III  
(Lectures 8)


SECTION –IV  
(Lectures 8)


Books Suggested
1. Jain, MK. Introduction to Biological membranes, John Wiley and sons New York, 1988
2. Vance, DE & Vance JE, Biochemistry of lipids and Biomembranes, Benzinam Cummings, 1985
5. Various review articles.

PRACTICALS: Marks : 25

One Practical of three hours per week

1. Electrophoresis of nucleic acids.
2. Gram staining of cells.
3. Cell fractionation and cell isolation estimation of marker enzyme
4. Paper chromatography of carbohydrates.
5. Cell counting/counting viability.
6. Demonstration of hypotonic ,hypertonic and osmotic media.
7. Preparation of starch from potato and its hydrolysis by salivary amylase.
8. Haemocytometer

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MICROBIOLOGY

B.Sc. (GENERAL) SECOND YEAR (3rd and 4th Semester) EXAMINATION, 2018-19

Note: 1. A student who has passed the + 2 examination under 10+2+3 system of education of a recognized University/Board/Council or any other examination recognized by the Panjab University as equivalent thereto shall be eligible to offer the subject of Microbiology at the B.Sc. level, if he/she has passed the +2 examination with Physics, Chemistry, Mathematics, Biology as his/her subjects.

2. Only such colleges which have all necessary infrastructure or equipment and staff shall admit students to the subject of Microbiology. The infrastructure must be approved by the University as per usual practice.

SEMESTER-III

<table>
<thead>
<tr>
<th>Scheme of Examination</th>
<th>Duration</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>THEORY</td>
<td>6 hrs.</td>
<td>75(33+33+9*)</td>
</tr>
<tr>
<td>MIC 301</td>
<td>3 hrs.</td>
<td>37.5(33+4.5*)</td>
</tr>
<tr>
<td>MIC 302</td>
<td>3 hrs.</td>
<td>37.5(33+4.5*)</td>
</tr>
<tr>
<td>PRACTICAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Practical pertaining to the entire syllabus included in Theory Papers MIC 301 and MIC 302</td>
<td>3 hrs.</td>
<td>25(20+5*)</td>
</tr>
</tbody>
</table>

Semester-IV

<table>
<thead>
<tr>
<th>Scheme of Examination</th>
<th>Duration</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>THEORY</td>
<td>6 hrs.</td>
<td>75(33+33+9*)</td>
</tr>
<tr>
<td>MIC 401</td>
<td>3 hrs.</td>
<td>37.5(33+4.5*)</td>
</tr>
<tr>
<td>MIC 402</td>
<td>3 hrs.</td>
<td>37.5(33+4.5*)</td>
</tr>
<tr>
<td>PRACTICAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Practical pertaining to the entire syllabus included in Theory Papers MIC 401 and MIC 402</td>
<td>3 hrs.</td>
<td>25(20+5*)</td>
</tr>
</tbody>
</table>

Note: * Denotes marks for the Internal Assessment.
MICROBIOLOGY
SEMESTER-III

MIC 301 : INTRODUCTION TO MEDICAL MICROBIOLOGY-I

MAX. MARKS: 37.5 MARKS
THEORY: 33 MARKS
INTERNAL ASSESSMENT: 4.5 MARKS
TIME: 3 HRS.

Note: The question paper will consist of four sections (A-D). There will be nine questions and five questions have to be attempted. Question 1 will span the complete syllabus and will be compulsory. Rest eight questions will be from different sections of the syllabus. There will be two questions from each of four sections and one is to be attempted. Each question will be subdivided into 2-4 sub-parts.

Section A
Brief introduction to terminology of infectious diseases, Frequency of disease, Recognition of infectious disease, Infectious disease cycle.

Section B
Nomenclature and classification of microbes of medical importance, criteria of classification

Section C
Microbial adherence, Active penetration into body, Passive penetration into body, Microbial production of enzymes in the body.

Section D
Development of chemotherapy, General characteristics of antimicrobial drugs, Determining level of antimicrobial activity, Mechanism of action of antimicrobial drugs, Factors influencing the effectiveness of antimicrobial drugs.

Recommended Books :
MIC 302: INTRODUCTORY IMMUNOLOGY-I

MAX. MARKS: 37.5 MARKS
THEORY: 33 MARKS
INTERNAL ASSESSMENT: 4.5 MARKS
TIME: 3 HRS.

Note: The question paper will consist of four sections (A-D). There will be nine questions and five questions have to be attempted. Question 1 will span the complete syllabus and will be compulsory. Rest eight questions will be from different sections of the syllabus. There will be two questions from each of four sections and one is to be attempted. Each question will be subdivided into 2-4 sub-parts.

Section A
Introduction and history of immunology, Non-specific defence; Physical barriers, Chemical barriers, Cellular, Phagocytosis, Inflammatory barriers, Inflammation, Fever, Types of Immunity, Active and Passive Immunity, Immunological memory

Section B
Humoral Immune Response, Antibodies/ Immunoglobulins, Structure, function and type of antibodies

Section C
Cell Mediated Immune System (CMI), Mechanism of CMI, Types of effector T cells, Helper T cells, Suppressor T cells, Cytotoxic T cells, Killer T cells, Interactions between T and B lymphocytes

Section D
Antigen-antibody interactions,: Precipitation reaction, Immunodiffusion test, Counter current Immuno electrophoresis, Complement fixation tests

Recommended Books:

PRACTICAL

MAX. MARKS: 25 MARKS
PRACTICAL: 20 MARKS
INTERNAL ASSESSMENT: 5 MARKS
TIME: 3 HRS.

1. Staining- Gram staining, Albert and ZNCF staining
2. Isolation and maintenance of pure cultures
3. Physiological characteristics of bacteria and its use for their identification
4. Assay of antimicrobials
5. Preparation of serum/plasma
MICROBIOLOGY

SEMESTER IV

MIC 401 : INTRODUCTION TO MEDICAL MICROBIOLOGY-II

MAX. MARKS: 37.5 MARKS
THEORY: 33 MARKS
INTERNAL ASSESSMENT: 4.5 MARKS
TIME: 3 HRS.

Note: The question paper will consist of four sections (A-D). There will be nine questions and five questions have to be attempted. Question 1 will span the complete syllabus and will be compulsory. Rest eight questions will be from different sections of the syllabus. There will be two questions from each of four sections and one is to be attempted. Each question will be subdivided into 2-4 sub-parts.

Section A

Virulence and mode of transmission, Emerging and reemerging infectious diseases, Global travel and health considerations, Nosocomial infections

Section B

Origin of normal flora, Germ free and gnotobiotic life, Distribution and occurrence of Normal flora of skin, eye, respiratory tract, mouth, intestinal tract and genitourinary tract

Section C

Events in infection following penetration, Microbial virulence factors

Section D

Antibacterial drugs viz. sulphonamides, Quinolones, Penicillins, Cephalosporins, Tetracyclines, Erythromycin, and Chloramphenicol, Drug resistance, Antifungal and antiviral drugs

Recommended Books:

MIC 402: INTRODUCTORY IMMUNOLOGY-II

MAX. MARKS: 37.5 MARKS
THEORY: 33 MARKS
INTERNAL ASSESSMENT: 4.5 MARKS
TIME: 3 HRS.

Note: The question paper will consist of four sections (A-D). There will be nine questions and five questions have to be attempted. Question 1 will span the complete syllabus and will be compulsory. Rest eight questions will be from different sections of the syllabus. There will be two questions from each of four sections and one is to be attempted. Each question will be subdivided into 2-4 sub-parts.

Section A

Primary and secondary lymphoid organs, Mucosa associated lymphoid tissues (MALT), Cutaneous associated lymphoid tissues (CALT), Lymphocyte traffic, Cells of Immune system, Antigens; Factors affecting Immunogenicity, Epitopes, Haptens

Section B

Antigenic combining regions of antibodies, Factors influencing antibody production, Genetic model, Multigene organisation, Generation of antibody diversity

Section C

Cytokines, Lymphokines, Colony stimulating factors, Tumour necrosis factors, Interferons, Accessory cells (Macrophages), the complement system, Classical and alternate pathway, HLA, Monoclonal antibody technology and its applications

Section D

Antigen-antibody Interactions: Widal test, Wasserman’s test, Weil-Felix reaction, Western blotting, Types of Vaccines

Recommended Books:

PRACTICAL

MAX. MARKS: 25 MARKS
PRACTICAL: 20 MARKS
INTERNAL ASSESSMENT: 5 MARKS
TIME: 3 HRS.

1. Sterilization- Introduction to autoclave, hot air oven, filter sterilization
2. Demonstration of Immune organs in dissected animals
3. Demonstration of Immune cells in smears prepared from Immune organs
4. Complement fixation
5. Antigen-antibody interactions:
   - Agglutination
   - Precipitation
   - Blood grouping
   - Immunodiffusion
ELECTRONICS

(KEPT IN ABEOYANCE)
AGRICULTURE

B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATIONS, 2018-19
SEMESTER-III

Paper – III : Agricultural Diversification and Machinery

Max. Marks : 75 Marks
Theory : 70 Marks
Internal Assessment : 5 Marks
Time : 3 Hours

Period per week : 1. Theory – Six of 45 minutes duration each.
2. Practical – Two of three hours duration.

INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS :

1. The syllabus of this paper has been divided into Four Units.
2. Question paper shall comprise of 9 questions in all.
3. Question 1 shall comprise of 10 short answer type questions covering the whole syllabus and will be compulsory. Each question will carry 1 (one) mark.
4. Units I, II, III and IV shall have two questions each from respective units, out of which one question from each unit is to be attempted. Each question will be of 15 (fifteen) marks.
5. Total five questions are to be attempted.

Unit-I

Agricultural aid on works :
Dairy
Poultry
Fishery
Mushroom Cultivation
Animal Husbandry
Bee Keeping

Unit-II

Maintenance of grassy lawns and flower beds.
Raising of winter and summer ornamental flowers (rose, gladioli, dahlias, dianthus, foliage plants).
Fundamentals of landscape of an educational institute, factory, panchayat lands and office buildings.

Unit-III

Introduction to medicinal, aromatic and spice plants.
Growing of non-conventional plants.
Basic idea of Genetically Modified crops.
Fundamentals of land measurements and land revenue.
Unit-IV

Important parts of the tractor, combine, thresher and their maintenance.
Study of various agricultural tools and implements.

PRACTICAL

Max. Marks : 25 Marks
Practical : 20 Marks
Internal Assessment : 5 Marks
Time : 3 hours

Visit to Poultry Farms, Fish Ponds, Apiary, Dairy Farms
Raising various ornamental flowers of different seasons
Maintenance of grassy lawns
Study the parts of engines, tractor and combine

Books :

AGRICULTURE

B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATIONS, 2018-19
SEMESTER-IV

Paper – IV : Cultivation Practices of Vegetables, Timber and basic statistical methods

Max. Marks : 75 Marks
Theory : 70 Marks
Internal Assessment : 5 Marks
Time : 3 Hours

Period per week :
1. Theory – Six of 45 minutes duration.
2. Practical – Two of three hours duration.

INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS :

1. The syllabus of this paper has been divided into four units.
2. Question paper shall comprise of 9 questions in all.
3. Question 1 shall comprise of 10 short answer type questions covering the whole syllabus and will be compulsory. Each question will carry 1 (one) mark.
4. Units I, II, III and IV shall have two questions each from respective units, out of which one question from each unit is to be attempted. Each question will be of 15 (fifteen) marks.
5. Total five questions are to be attempted.

Unit – I

Tillage, Fundamentals and Principles of Tillage, Zero Tillage, Tillage Implements.

Unit – II

Cultivation Practices of Potato, Tomato; Bhindi, Cabbage; Onion and Asparagus

Unit – III

What are Timbers and Lumbers?
Raising of Dalbergia; Tectona; Poplar; and Eucalyptus

Unit- IV

Statistical Methods for Agricultural workers including Mean, Mode, Median, Chi-Square, Standard Deviation.
PRACTICAL

Max. Marks : 25 Marks
Practical : 20 Marks
Internal Assessment : 5 Marks
Time : 3 hours

Visit to Agricultural Farms for Fundamental Aspects of Tillage
Raising Forest Nursery
Cultivation of Seasonal Vegetables
Numerical Problems of Statistics

Books :


