



**PANJAB UNIVERSITY, CHANDIGARH-160014 (INDIA)**  
(Estd. under the Panjab University Act VII of 1947—enacted by the Govt. of India)

## **SYLLABI**

*FOR*

**B.A. & B.Sc. (GENERAL) SECOND YEAR  
(SEMESTER SYSTEM)  
EXAMINATIONS, 2019-2020**

**(SEMESTER : THIRD AND FOURTH)**

*i.e*

*Third Semester* : *November/December, 2019*  
*Fourth Semester* : *April/May, 2020*

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**PANJAB UNIVERSITY, CHANDIGARH**

**OUTLINES OF TESTS, SYLLABI AND COURSES OF READING IN VARIOUS SUBJECTS FOR  
B.A./B.Sc. (GENERAL) SECOND YEAR (SEMESTER SYSTEM) i.e. THIRD SEMESTER  
NOVEMBER/DECEMBER 2019 AND FOURTH SEMESTER APRIL/MAY 2020, EXAMINATIONS.**

**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:**

**English for Empowerment**, Eds., G Damodar, D Venkateshwarlu, M. Narendra, M. Sarat Babu, G. M. Sunderavalli, Hyderabad: Orient Blackswan, 2009.

**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. Grammer:  
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 excercises 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:**

**English for Empowerment**, Eds., G. Damodar, D. Venkateswarlu, M. Narendra, M. Sarat Babu, G. M. Sunderavalli, Hyderabad: Orient Blackswan, 2009.

**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 Excerpt 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. Grammer:
- 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 excercises 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)**  
**(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**

- Q.5. Memos/Tender Notices/Auction Notices/Public Notices.

**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**

Q.4. Short Survey Report (150-200 words) with internal choice.

**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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**ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)**  
( ਸਿਰਫ਼ ਬੀ.ਏ. ਦੇ ਵਿਦਿਆਰਥੀਆਂ ਲਈ )  
**ਸਮੇਸਟਰ ਤੀਜਾ**

ਕੁੱਲ ਅੰਕ: 50  
ਲਿਖਤੀ: 45  
ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ: 5  
ਸਮਾਂ: 3 ਘੰਟੇ

**ਪਾਠਕ੍ਰਮ**

1.	ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਬਾਰੇ ਨਿਬੰਧਾਂ ਦਾ ਅਧਿਐਨ	20 ਅੰਕ
2.	ਚਿੱਠੀ ਪੱਤਰ	8 ਅੰਕ
3.	ਪੰਜਾਬੀ ਭਾਸ਼ਾ	7 ਅੰਕ
4.	ਵਿਆਕਰਨ :ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ	10 ਅੰਕ

**ਕੋਰਸ**

1. ਪੰਜ-ਆਬ, (ਸੰਪਾ.) ਪ੍ਰੋ. ਭੁਪਿੰਦਰ ਸਿੰਘ ਖਹਿਰਾ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।

**ਯੂਨਿਟ ਅਤੇ ਥੀਮ**

1.	(ੳ) ‘ਪੰਜ -ਆਬ’ ਪੁਸਤਕ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਨਿਬੰਧ ਦਾ ਵਿਸ਼ਾ ਦੱਸ ਕੇ ਸਾਰ ਲਿਖਣਾ (ਤਿੰਨਾਂ ਵਿਚੋਂ ਇਕ)	4+6=10 ਅੰਕ
	(ਅ) ਨਿਬੰਧਾਂ ਦੀ ਪੁਸਤਕ ਵਿਚ ਆਏ ਸਭਿਆਚਾਰਕ ਸੰਕਲਪਾਂ (ਇਸ਼ਟ, ਅਖਾਣ, ਲੋਕਗੀਤ, ਵਿਰਾਸਤੀ ਖੇਡਾਂ, ਲੋਕ ਵਿਸ਼ਵਾਸ, ਮੇਲੇ, ਤਿਉਹਾਰ, ਗਿੱਧਾ, ਲੋਕ ਚਿਕਿਤਸਾ ਤੇ ਲੋਕਧਾਰਾ) ਬਾਰੇ ਪ੍ਰਸ਼ਨ (ਤਿੰਨਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ )	5 ਅੰਕ
2.	‘ਪੰਜ-ਆਬ’ ਪੁਸਤਕ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਉੱਤਰ ਤਿੰਨ ਸਤਰਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) (ਅੱਠ ਵਿਚੋਂ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ)	1 x 5= 5 ਅੰਕ
3.	ਚਿੱਠੀ ਪੱਤਰ (ਦਫ਼ਤਰੀ, ਵਪਾਰਕ, ਸਮਾਜਕ ਤੇ ਸਭਿਆਚਾਰਕ ਮਸਲਿਆਂ ਬਾਰੇ ਸੰਪਾਦਕ ਨੂੰ ਪੱਤਰ) (ਦੋ ਵਿਚੋਂ ਇਕ)	8 ਅੰਕ
4.	ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਜਨਮ , ਵਿਕਾਸ ਤੇ ਵਰਤਮਾਨ ( ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ)	7 ਅੰਕ
5.	ਵਿਆਕਰਨ :ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ (i) ਸ਼ਬਦ ਤੇ ਸ਼ਬਦ ਰਚਨਾ:ਪਰਿਭਾਸ਼ਾ ਤੇ ਵਰਗੀਕਰਨ, ਭਾਵੰਸ਼: ਬੰਦ ਤੇ ਖੁੱਲ੍ਹੇ ਭਾਵੰਸ਼, ਧਾਤੂ ਤੇ ਵਧੇਤਰ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ )	6 ਅੰਕ
	(ii) ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਨੋਟ: ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਉਪਰੋਕਤ ਸੰਕਲਪਾਂ ਦੇ ਆਧਾਰ ਤੇ ਹੀ ਸੰਖੇਪ ਰੂਪ ਵਿਚ ਪੁੱਛੇ ਜਾਣ। (ਚਾਰ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਦੋ ਪ੍ਰਸ਼ਨ ਕਰਨੇ)	2+2= 4 ਅੰਕ

- ਨੋਟ: 1. ਟੈਕਸਟ ਲਈ ਹਫ਼ਤੇ ਦੇ ਛੇ ਪੀਰੀਅਡ।  
2. ਕੰਪੋਜ਼ੀਸ਼ਨ ਲਈ 25-30 ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਗਰੁੱਪ ਅਤੇ ਹਫ਼ਤੇ ਦੇ ਤਿੰਨ ਹੋਰ ਪੀਰੀਅਡ।  
3. ਹਫ਼ਤੇ ਦੇ 6+3 = 9 ਪੀਰੀਅਡ।

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**ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)**  
(ਸਿਰਫ਼ ਬੀ.ਏ. ਦੇ ਵਿਦਿਆਰਥੀਆਂ ਲਈ)  
**ਸਮੇਸਟਰ ਚੌਥਾ**

ਕੁੱਲ ਅੰਕ: 50  
ਲਿਖਤੀ: 45  
ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ: 5  
ਸਮਾਂ: 3 ਘੰਟੇ

**ਪਾਠਕ੍ਰਮ**

- |    |  |        |
|----|--|--------|
| 1. | ਇਕਾਂਗੀ ਤੇ ਨਾਟਕ                         | 20 ਅੰਕ |
| 2. | ਪੈਰੋ ਦਾ ਅਨੁਵਾਦ ( ਅੰਗਰੇਜ਼ੀ ਤੋਂ ਪੰਜਾਬੀ ) | 8 ਅੰਕ  |
| 3. | ਪੰਜਾਬੀ ਦੀਆਂ ਉਪਭਾਸ਼ਾਵਾਂ                 | 7 ਅੰਕ  |
| 4. | ਵਿਆਕਰਨ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ               | 10 ਅੰਕ |

**ਕੋਰਸ**

1. ਛੇ ਛੱਲਾਂ (ਸੰਪਾ.) ਡਾ.ਆਤਮਜੀਤ ਸਿੰਘ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।
2. ਕੱਲਰ, ਸਵਰਾਜਬੀਰ, ਲੋਕਗੀਤ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।

**ਯੂਨਿਟ ਅਤੇ ਥੀਮ**

- |    |  |                         |
|----|--|-------------------------|
| 1. | (ੳ) ‘ਛੇ ਛੱਲਾਂ’ ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿ ਤੇ ‘ਕੱਲਰ’ ਨਾਟਕ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਦਾ ਵਿਸ਼ਾ ਦੱਸ ਕੇ ਸਾਰ ਲਿਖਣਾ (ਤਿੰਨ ਵਿਚੋਂ ਇਕ)   | 4+6 =10 ਅੰਕ             |
|    | (ਅ) ‘ਛੇ ਛੱਲਾਂ’ ਤੇ ‘ਕੱਲਰ’ ਨਾਟਕ ਵਿਚੋਂ ਪਾਤਰ ਚਿਤਰਨ ਕਰਨਾ (ਤਿੰਨ ਵਿਚੋਂ ਇਕ)  | 5 ਅੰਕ                   |
| 2. | ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿ ਤੇ ਨਾਟਕ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ( ਉੱਤਰ ਤਿੰਨ ਸਤਰਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) (ਅੱਠਾਂ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਪੰਜ ਕਰਨੇ)   | 1 x 5=5 ਅੰਕ             |
| 3. | ਅੰਗਰੇਜ਼ੀ ਤੋਂ ਪੰਜਾਬੀ ਵਿੱਚ ਅਨੁਵਾਦ (ਲਗਭਗ 100 ਸ਼ਬਦਾਂ ਵਿਚ)  | 8 ਅੰਕ                   |
| 4. | ਪੰਜਾਬੀ ਦੀਆਂ ਉਪਭਾਸ਼ਾਵਾਂ<br>ਨੋਟ: ਉਪਭਾਸ਼ਾਵਾਂ ਉਪਰ ਸਵਾਲ ਸਿਰਫ਼ ਪੂਰਬੀ ਪੰਜਾਬੀ ਉਪਭਾਸ਼ਾਵਾਂ (ਮਾੜੀ, ਮਲਵਈ, ਦੁਆਬੀ ਤੇ ਪੁਆਧੀ ਨੂੰ ਆਧਾਰ ਬਣਾ ਕੇ ਹੀ ਪੁੱਛਿਆ ਜਾਵੇ। (ਦੋ ਵਿਚੋਂ ਇਕ)   | 7 ਅੰਕ                   |
| 5. | ਵਿਆਕਰਨ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ<br>(i) ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ : ਕੋਸ਼ਗਤ ਤੇ ਵਿਆਕਰਨਕ ਸ਼ਬਦ, ਵਿਕਾਰੀ ਤੇ ਅਵਿਕਾਰੀ ਸ਼ਬਦ, ਸਧਾਰਨ, ਸਮਾਸੀ ਤੇ ਮਿਸ਼ਰਤ, ਸ਼ਬਦ ਜੋੜਾਂ ਦੇ ਨੇਮ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ)<br>(ii) ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ<br>ਨੋਟ: ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਉਪਰੋਕਤ ਸੰਕਲਪਾਂ ਦੇ ਆਧਾਰ ਤੇ ਹੀ ਸੰਖੇਪ ਰੂਪ ਵਿਚ ਪੁੱਛੇ ਜਾਣ। (ਚਾਰ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਦੋ ਪ੍ਰਸ਼ਨ ਕਰਨੇ) | 6 ਅੰਕ<br><br>2+2= 4 ਅੰਕ |

**ਸਹਾਇਕ ਪੁਸਤਕਾਂ:**

1. ਪੰਜਾਬੀ ਸੰਚਾਰ ਯੋਗਤਾ ਅਭਿਆਸ, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ।
  2. ਅਗਨੀਹੋਤਰੀ, ਵੇਦ, ਪਰਿਚਾਇਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਦੀਪਕ ਪਬਲਿਸ਼ਰਜ਼, ਜਲੰਧਰ, 1981.
  3. ਸੁਖਵਿੰਦਰ ਸਿੰਘ ਸੰਘਾ ਅਤੇ ਹੋਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਭਾਗ-ਪਹਿਲਾ, ਦੂਜਾ ਤੇ ਤੀਜਾ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ, ਜਲੰਧਰ, 1997.
  4. ਹਰਕੀਰਤ ਸਿੰਘ (ਡਾ.), ਕਾਲਜ ਪੰਜਾਬੀ ਵਿਆਕਰਨ , ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ, 1999
  5. ਧਾਲੀਵਾਲ, ਪ੍ਰੇਮ ਪ੍ਰਕਾਸ਼ ਸਿੰਘ (ਡਾ.) ਸਿਧਾਂਤਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ , ਮਦਾਨ ਪਬਲਿਕੇਸ਼ਨਜ਼, ਪਟਿਆਲਾ, 2002.
  6. ਬਰਾੜ, ਬੂਟਾ ਸਿੰਘ (ਡਾ.), ਪੰਜਾਬੀ ਵਿਆਕਰਨ, ਸਿਧਾਂਤ ਅਤੇ ਵਿਹਾਰ , ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ ਲੁਧਿਆਣਾ, 2008.
  7. ਜੱਸਲ ਕਵਲਜੀਤ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੇ ਕੁਝ ਪੱਖ , ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਹਾਲ ਬਾਜ਼ਾਰ, ਅੰਮ੍ਰਿਤਸਰ, 2012.
  8. ਮਨਜੀਤ ਕੌਰ, **ਪੰਜਾਬੀ ਭਾਸ਼ਾ : ਵਰਤੋ ਤੇ ਬਣਤਰ**, ਲੋਕਗੀਤ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।
- ਨੋਟ: 1. ਟੈਕਸਟ ਲਈ ਹਫ਼ਤੇ ਦੇ ਛੇ ਪੀਰੀਅਡ।  
2. ਕੰਪੋਜ਼ੀਸ਼ਨ ਲਈ 25-30 ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਗਰੁੱਪ ਅਤੇ ਹਫ਼ਤੇ ਦੇ ਤਿੰਨ ਹੋਰ ਪੀਰੀਅਡ।  
3. ਹਫ਼ਤੇ ਦੇ 6+3=9 ਪੀਰੀਅਡ।

**HISTORY AND CULTURE OF PUNJAB****(For B.A. candidates only)****SEMESTER-III****Objectives:** To introduce the students to the history of the region during medieval times.**Pedagogy:** Lectures, library work and discussions.**INSTRUCTIONS FOR THE PAPER–SETTER AND CANDIDATES: (FOR PAPER IN SEMESTER III AND IV)**

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

**Unit-I**

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

**Unit-II**

Salient features of the Bhakti movement  
 Main Features of Sufism in Punjab  
 Development of Sikhism (1539-1581): Contribution of Guru Angad Dev, Guru Amar Das and Guru Ram Das for the development of Sikhism

**Unit III**

Transformation of Sikhism : Compilation of Adi-Granth; Martyrdom of Guru Arjan Dev  
 Guru Hargobind's New policy  
 Martyrdom of Guru Tegh Bahadur

**Unit IV**

Foundation of the Khalsa  
 Post Khalsa activities of Guru Gobind Singh  
**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 (3<sup>rd</sup> 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).
2. Singh, Fauja (ed.) : *History of the Punjab*, Vol. III, Punjabi University, Patiala, 1972.
3. Grewal, J.S. : *The Sikhs of the Punjab*, The New Cambridge History of India,  
 Orient Longman, Hyderabad, 1990.
4. Singh, Khushwant : *A History of the Sikhs*, Vol. I : 1469-1839, Oxford University Press,  
 Delhi, 1991.
5. Chopra, P.N., Puri, B.N., : *A Social, Cultural & Economic History of India*, Vol. II, Macmillan,  
 and Das, M.N. Delhi, 1974.
6. Hussain, Yusuf : *Glimpses of Medieval Indian Culture*, Asia Publishing House,  
 Bombay, 1973 (rep.).

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

### SEMESTER-IV

**Objectives:** To introduce the students to the history of the region in the later medieval period.  
**Pedagogy:** Lectures, library work and discussions.

#### INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER IN SEMESTER III AND IV)

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.

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.**

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

#### **Explanation:**

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

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 marks each.

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

<b>Paper:</b>	<b>HISTORY AND CULTURE OF PUNJAB 18<sup>TH</sup> AND EARLY 19<sup>TH</sup> CENTURIES</b>		
	Max. Marks	:	50
	Theory	:	45
	Internal Assessment	:	05
	Time	:	3 Hours

#### Unit I

Banda Bahadur and his achievements  
 Sikh Struggle for Sovereignty from 1716-1765  
 Role of Dal Khalsa, Rakhi, Gurmata and Misls

**Unit II**

Ranjit Singh's rise to Power  
Civil and Military administration  
Relations with the British

**Unit-III**

Political Developments 1839-1845  
Anglo-Sikh Wars  
Annexation of the Punjab

**Unit-IV**

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

**Suggested Readings :**

- Singh, Kirpal : *History and Culture of the Punjab*, Part II (Medieval Period),  
Publication Bureau, Punjabi University, Patiala, 1990 (3<sup>rd</sup> 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).
- Singh, Fauja (ed.) : *History of the Punjab*, Vol. III, Punjabi University, Patiala, 1972.
- Grewal, J.S. : *The Sikhs of the Punjab*, The New Cambridge History of India,  
Orient Longman, Hyderabad, 1990.
- Singh, Khushwant : *A History of the Sikhs*, Vol. I : 1469-1839, Oxford University Press,  
Delhi, 1991.
- Chopra, P.N., Puri, B.N., : *A Social, Cultural & Economic History of India*, Vol. II, Macmillan,  
and Das, M.N. Delhi, 1974.
- Hussain, Yusuf : *Glimpses of Medieval Indian Culture*, Asia Publishing House,  
Bombay, 1973 (rep.).

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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:**

Drama, Myth of Dionysus, Liturgical Drama, Miracle Plays, Mystery Plays, Interlude, Mimesis, Catharsis, Tragic Hero, Organic Unity, Revenge Tragedy, Poetic Drama, Verse Drama, Myth & Drama, Ritual & Drama, Yaksgana, Theory, Indian Theory of Drama, Puppetry, Ardhnarishwra.

**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.)*

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**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 Upadhyaya, 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.)*

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**हिन्दी (ऐच्छिक द्वितीय वर्ष)**  
**सेमेस्टर-3**

पूर्णांक : 90+10=100

समय : 3 घण्टे

1. तरंगिणी- मनोहर लाल आनन्द, पंजाब विश्व विद्यालय पब्लिकेशन ब्यूरो, चण्डीगढ़।  
निम्नलिखित कवि पाठ्यक्रम में निघ रित है:-  
मैथिलीशरण गुप्त, जयशंकर प्रसाद, सूर्यकान्त त्रिपाठी निराला, सुमित्रानन्दन पन्त  
क) 5-5 अंकों की दो सन्दर्भ-सहित व्याख्याएँ करनी होंगी। कुल चार अंक-10  
व्याख्याएँ पूछी जाएँगी।  
ख) कवि-परिचय, सार और उद्देश्य संबंधी कुल दो प्रश्न पूछे जायेंगे। अंक-08  
8 अंकों का एक ही प्रश्न करना होगा। प्रत्येक उत्तर की शब्द सीमा 200 होगी।
2. एक सत्य हरिश्चन्द्र- डॉ० लक्ष्मीनारायण लाल, राजपाल एण्ड सन्ज, नई दिल्ली।  
क) संदर्भ सहित व्याख्या के लिए दो प्रश्न पूछे जाएँगे; अंक-05  
उत्तर एक का ही देना होगा।  
ख) पात्रों के चरित्र-चित्रण, तत्वों के आधार पर नाटक अंक-08  
की समीक्षा तथा समस्या संबंधी दो प्रश्न पूछे जायेंगे।  
8 अंकों का एक ही प्रश्न करना होगा। (शब्द-सीमा 200)
3. इस खण्ड में 3-3 अंकों के तीन लघुतरी प्रश्नों के उत्तर अंक-09  
देने होंगे। कुल 6 प्रश्न पूछे जायेंगे। ये प्रश्न इस पत्र के  
पूर्वोक्त दो खण्डों (तरंगिणी व एक सत्य हरिश्चन्द्र) पर  
आधारित होंगे। (शब्द-सीमा 50)
4. हिन्दी साहित्य का इतिहास- रीतिकाल : (केवल काव्य-खंड) अंक-08  
रीतिकाल की परिस्थितियाँ, नामकरण, सीमा-निर्धारण, प्रवृत्तियाँ  
रीतिबद्ध 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 जाएँगे। (शब्द-सीमा 200-250)

5. वस्तुनिष्ठ प्रश्न अंक-10  
इस पत्र के पूर्वोक्त तीनों खण्डों के आधार पर 1-1 अंक के दस वस्तुनिष्ठ प्रश्नों के उत्तर देने होंगे। कुल पन्द्रह प्रश्न पूछे जाएँगे।
6. समीक्षा सिद्धान्त- केवल 'नाटक' अंक-07  
परिभाषा, तत्व और वर्गीकरण पर आधारित नाटक से संबंधित दो प्रश्न पूछे जायेंगे। जिनमें से 7 अंकों का एक प्रश्न करना होगा। (शब्द सीमा 200)
7. व्यावहारिक व्याकरण- अंक-15  
क) समाकृति, भिन्नार्थक शब्द-युग्म 3) (चार में से तीन)  
ख) स्वर-सन्धि एवं व्यंजन-संधि 3)  
ग) सन्धि-विच्छेद(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) अंक-10  
(सलंगन शब्दावली)  
15 में से 10 का उत्तर देना होगा।
- आंतरिक मूल्यांकन- अंक-10  
निर्देश :-छह लेक्चर Text के और तीन लेक्चर व्याकरण के अनिवार्य होंगे।

#### प्रशासनिक 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               |

10.	Affidavit	शपथ लेना, हलफनामा
11.	Agent	अभिकर्ता, एजेन्ट
12.	Agitation	आन्दोलन
13.	Agreement	करार, अनुबंध, सहमति
14.	Allowance	भत्ता
15.	Amenity	सुख-सुविधा
16.	Anti-Corruption Officer	भ्रष्टाचार निरोध अधिकारी
17.	Appeal	अपील, अपील करना
18.	Appointment	नियुक्ति
19.	Appoint	नियुक्ति करना
20.	Approval	अनुमोदन
21.	Article	अनुच्छेद, नियम, वस्तु
22.	Association	संघ, समाज, संगम
23.	At Par	सममूल्य पर
24.	Attendant	परिचर
25.	Attestation	साक्ष्यांकन, अनुप्रमाणन
26.	Audit	लेखा परीक्षा
27.	Ballot Paper	मतपत्र, मतपर्ची
28.	Ban	प्रतिबंध, रोक, पाबंदी
29.	Bonafide	सद्भावी, वास्तविक, असली
30.	Book –Fair	पुस्तक मेला
31.	Bureau	कार्यालय, ब्यूरो
32.	Cabinet	मंत्री मंडल
33.	Candidate	अभ्यर्थी, प्रार्थी, उम्मीदवार
34.	Care-taker	रखवाला, अवधायक
35.	Cashier	रोकड़िया
36.	Censure	निंदा प्रस्ताव, परिनिंदा
37.	Certificate of Medical Fitness	आरोग्य प्रमाण-पत्र
38.	Character Certificate	चरित्र प्रमाण-पत्र
39.	Charge Sheet	आरोप पत्र, फर्द, जुर्म
40.	Circular	परिपत्र, गशती-चिट्ठी
41.	Circulation of Traffic	यातायात परिचालन
42.	Circus	क्रीड़ा रंग, रंगमंडप
43.	Citation	प्रशस्ति, उद्धरण, अनुलेखन
44.	City Booking Office	नगर टिकट घर, नगर बुकिंग-कार्यालय

45.	City Compensatory Allowance	नगर भत्ता
46.	Civil	नागरिक
47.	Civil Pole	नगर निर्वाचन
48.	Civil Sense	नागरिक भावना
49.	Civil-air-craft	असैनिक वायुयान
50.	Claimant	दावेदार, दावी
51.	Collector	समाहर्ता, संग्रहक, संकलनकर्ता, कलेक्टर
52.	Colony	बस्ती, उपनिवेश
53.	Colossal	विशाल, वृहत्काय
54.	Colour Blindness	वर्णान्धता
55.	Communique	विज्ञप्ति
56.	Complaint	शिकायत
57.	Complementary	पूरक
58.	Completion Report	समापन रिपोर्ट
59.	Certified Copy	प्रमाणित प्रतिलिपि
60.	Complementary Copy	उपहार प्रति, मानार्थ प्रति
61.	Composite	मिला जुला, सम्मिश्रण संशिष्ट
62.	Comprehension	व्यापक कार्य बोध
63.	Contingencies	आकस्मिक व्यय
64.	Contractor	ठेकदार, संविदाकार
65.	Confiscate	जब्त करना, अधिहरण करना
66.	Corporation	निगम
67.	Custody	अभिरक्षा
68.	Decorum	शिष्टता, शालीनता
69.	Defacto	वस्तुतः
70.	Defaulter	त्रुटिकारी, चूक करने वाला, बाकीदार
71.	Defendant	प्रतिवादी
72.	Depreciation Charge	मूल्यह्रास प्रभार, अवक्षय प्रभार
73.	Design	अभिकल्प, अभिकल्पना, रूपांकन, डिज़ाइन
74.	Dispatch	प्रेषण, रवानगी, प्रेषित करना, रवाना करना
75.	Dignitary	उच्च पदधरी, महिमाम्बित
76.	Director	निदेशक
77.	Disbursement	संवितरण
78.	Discipline	अनुशासन
79.	Discrepancy	विसंगति, गलती
80.	Discretion	विवेक, विवेकाधिकार



81.	Dissent	विसम्मति, असहमति
82.	Disqualified	अयोग्य
83.	Division	विभाजन, मंडल, श्रेणी, प्रभाग, डिवीजन
84.	Eligible	पात्रता, प्राप्त, पात्र
85.	Emergency	आपात, आपात्-स्थिति, आपत्तिक
86.	Emigrant	उत्प्रवासी
87.	Employment	रोजगार, नौकरी, नियोजन
88.	Employment Exchange	रोजगार कार्यालय, रोजगार दफतर
89.	Employment Officer	रोजगार अधि कारी
90.	Enquiry	पूछताछ, जाँच
91.	Enrolment Number	नामांकन संख्या
92.	Enrolled	नामांकित
93.	Evacuee	निष्क्रान्त
94.	Executive Engineer	कार्यपालक अभियन्ता, कार्यपाल इंजीनियर
95.	Faculty	संकाय
96.	Finance	वित्त, रूपया लगाना
97.	Gazetted Officer	राजपत्रित अधिकारी
98.	Gazetteer	राजविवरणिका
99.	Gazetted post	राजपत्रित पद
100.	Grant	अनुदान, स्वीकार करना
101.	Incentive	प्रोत्साहन
102.	Index	सूचक, अनुक्रमणी
103.	Initials	आद्यक्षर
104.	Insured Letter	बीमा किया हुआ पत्रा
105.	Interim	अन्तरिम
106.	Intelligence	गुप्तवार्ता, आसूचना
107.	Intelligentia	प्रबुद्ध वर्ग, बुद्धिजीवी वर्ग
108.	Intensive reading	गहन पठन
109.	Intention	अभिप्राय, आशय
110.	Judgment	निर्णय
111.	Jurisdiction	अधिकार- क्षेत्र
112.	Ledger	खाता
113.	Lessee	पट्टेदार
114.	Liaison Officer	संपर्क अधिकारी
115.	Maintenance	अनुरक्षण, भरण-पोषण, रख-रखाव
116.	Major	व्यस्क, बालिग, मेजर, प्राप्त्य

117.	Manager	प्रबंधक, व्यवस्थापक, मैनेजर
118.	Minor	अवस्यक, नाबालिग, अप्राप्तव्य
119.	Monopoly	एकाधिकारी, एकाधिपत्य
120.	Motion	प्रस्ताव
121.	Nationalization	राष्ट्रीयकरण
122.	Negotiation	संधिवार्ता, समझौते की बातचीत
123.	Note of Dissent	विसन्मति लेख, असहमति लेख
124.	Notification	अधिसूचना
125.	Oath Commissioner	शपथ आयुक्त
126.	Offender	अपराधी
127.	Permissible	अनुभेय, अनुज्ञेय, क्षम्य
128.	Planning Commission	योजना आयोग
129.	Precedence	पूर्वता, अग्रता
130.	Procedure	कार्यविधि
131.	Public	सार्वजनिक, आम, सरकारी, लोक
132.	Quorum	गणपूर्ति, कोरम
133.	Receipt	पावती, प्राप्ति रसीद
134.	Recruitment	भर्ती
135.	Receiver	पानेवाला
136.	Reminder	स्मरण-पत्र
137.	Representative	प्रतिनिधि
138.	Senior	वरिष्ठ, ज्येष्ठ
139.	Sine die	अनिश्चित काल के लिए
140.	Statutory	कानुनी, विधिक, संविधिक
141.	Stenographer	आशुलिपिक
142.	Subordinate	अधीन, अधीनस्थ
143.	Tender	निविदा, टेंडर
144.	Transfer	बदली, स्थानांतरण, अंतरण
145.	Treasurer	कोषपाल
146.	Unofficial	अशासकीय
147.	Vacancy	रिक्ति
148.	Vigilance Officer	सतर्कता अधिकारी, निगरानी अधिकारी
149.	Warrant	अधिपत्र, वारंट

## हिन्दी (ऐच्छिक द्वितीय वर्ष)

## सेमेस्टर-4

पूर्णांक : 90+10=100

समय : 3 घण्टे

1. तरंगिणी-मनोहर लाल आनन्द, पंजाब विश्व विद्यालय, पब्लिकेशन ब्यूरो, चण्डीगढ़ से प्रकाशित निम्न कवि पाठ्यक्रम में निघ [रित है:-  
महादेवी वर्मा, अज्ञेय, धर्मवीर भारती।
  - क) 5-5 अंकों की दो संदर्भ सहित व्याख्याएँ करनी होंगी। अंक-10  
कुल चार व्याख्याएँ पूछी जाएंगी।
  - ख) कवि परिचय, सार और उद्देश्य संबंधी कुल दो प्रश्न पूछे जाएंगे। 8 अंको का एक प्रश्न करना होगा। उत्तर सीमा 200 शब्दों की होगी। अंक-08
2. आदर्श एकांकी संग्रह - सं. डॉ० संसार चन्द्र, पंजाब विश्व विद्यालय पब्लिकेशन ब्यूरो चण्डीगढ़ द्वारा प्रकाशित
  - क) एकांकी के तत्वों के आधार पर समीक्षात्मक प्रश्न (सार-लेखन, चरित्र-चित्रण, उद्देश्य संबंधी) दो प्रश्न पूछे जायेंगे। 8 अंकों का एक प्रश्न करना होगा। अंक-08
  - ख) संदर्भ सहित व्याख्या नहीं पूछी जाएगी।
3. हिन्दी साहित्य का इतिहास : आधुनिक काल (केवल काव्य-खण्ड)  
आधुनिक काल के भारतेन्दु-युग, द्विवेदी युग, छायावाद, प्रगतिवाद, प्रयोगवाद और नई कविता की केवल प्रमुख प्रवृत्तियों से संबंधित 10 अंको का एक प्रश्न करना होगा। कुल दो प्रश्न पूछे जाएँगे। (शब्द सीमा-सीमा 250) अंक-10
4. वस्तुनिष्ठ प्रश्न अंक-10  
इस पत्रा के पूर्वोक्त तीन खण्डों के आधार पर एक-एक अंक के दस वस्तुनिष्ठ प्रश्न करने होंगे। कुल पन्द्रह प्रश्न पूछे जाएँगे।

5.	संलग्न 50 टिप्पणियों का अभ्यास : पूछी गई दस टिप्पणियों में से पाँच का उत्तर देना होगा ।	अंक-10
6.	समीक्षा सिद्धान्त : केवल 'एंकाकी' एंकाकी के तत्व, परिभाषा और वर्गीकरण से संबंधित दो प्रश्न पूछे जाएँगे। 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 लेक्चर Text के और 3 लेक्चर व्याकरण के अनिवार्य होंगे।

### 50 टिप्पणियाँ

1.	A brief note is placed below	संक्षिप्त टिप्पणी नीचे प्रस्तुत है ।
2.	Acknowledge receipt of this	इसकी पावती 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 हैं ।
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 माँगाए ।
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 | प्रतिलिपि सूचनार्थ एवं आवश्यक कार्यवाही के लिए प्रेषित है । |
| 20. | Case may be kept pending                            | मामले को अभी अनिर्णीत रखा जाए ।                             |
| 21. | Delay should be avoided                             | विलम्ब न किया जाए ।   |
| 22. | Disciplinary proceedings may be initiated           | आनुशासनिक कार्यवाही शुरू की जाए ।                           |
| 23. | Draft reply is put up                               | उत्तर का मसौदा प्रस्तुत है                                  |
| 24. | Enquiry may be conducted                            | जाँच की जाएं  |
| 25. | Expedite action                                     | शीघ्र कार्यवाही करें ।                                      |
| 26. | Explanation may be called for                       | स्पष्टीकरण माँगा जाए ।                                      |
| 27. | Facts for the case may be put up                    | मामलों के तथ्य प्रस्तुत करें ।                              |
| 28. | For perusal and return                              | देखकर लौटाने के लिए   |
| 29. | For comments please                                 | कृपया टिप्पणी दें ।   |
| 30. | For sympathetic consideration                       | सहानुभूतिपूर्ण विचार के लिए ।                               |
| 31. | Forwarded and recommended                           | प्रेषित और संस्तुत ।  |
| 32. | I concur with the proposal                          | मैं इस प्रस्ताव से अपनी सहमति प्रकट करता हूँ ।              |
| 33. | I have no remarks to offer                          | मुझे कोई टिप्पणी नहीं करनी है ।                             |
| 34. | Inform all concerned                                | सभी संबंधित व्यक्तियों को सूचित करें ।                      |
| 35. | Issue a circular                                    | परिपत्र जारी करें ।   |
| 36. | Keep pending  | निर्णय के लिए रोक रखें ।                                    |
| 37. | Kindly accord sanction                              | कृपया स्वीकृति दीजिए ।                                      |
| 38. | Kindly confirm                                      | कृपया पुष्टि करें ।   |
| 39. | Matter is under consideration                       | मामला विचाराधीन है ।  |
| 40. | No action is necessary                              | कोई कार्यवाही अपेक्षित नहीं है                              |
| 41. | Needful has been done                               | आवश्यक कार्यवाही की गई है ।                                 |
| 42. | Order may be issued                                 | आदेश जारी किया जाए ।  |
| 43. | Please see the proceeding notes                     | कृपया पिछली टिप्पणियाँ देख लें ।                            |
| 44. | Put up the relevant papers                          | संबंधित कागज प्रस्तुत करें ।                                |
| 45. | Reminder may be sent                                | अनुस्मारक भेजा जाए ।  |
| 46. | Report compliance immediately                       | अनुपालन करके तुरन्त सूचित करें ।                            |
| 47. | Specific reason may be given                        | विशिष्ट कारण दिया जाए ।                                     |
| 48. | Submitted for information                           | सूचना के लिए प्रस्तुत है ।                                  |
| 49. | This may be treated as confident                    | इसे गोपनीय समझा जाए ।                                       |
| 50. | Verified and found correct                          | जाँचा और सही पाया ।   |

**ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)**  
**ਬੀ.ਏ. ( ਜਨਰਲ ) ਭਾਗ ਦੂਜਾ, ਦਸੰਬਰ 2019 ਦੇ ਇਮਤਿਹਾਨ ਲਈ**  
**ਸਮੈਸਟਰ ਤੀਜਾ**

ਕੁੱਲ ਅੰਕ: 100  
ਲਿਖਤੀ: 90  
ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ: 10  
ਸਮਾਂ: 3 ਘੰਟੇ

**ਪਾਠਕ੍ਰਮ**

- |    |   |        |
|----|---|--------|
| 1. | ਮੱਧਕਾਲ ਦੀ ਚੋਣਵੀਂ ਕਵਿਤਾ                      | 25 ਅੰਕ |
| 2. | ਸਫ਼ਰਨਾਮੇ ਦਾ ਅਧਿਐਨ                           | 25 ਅੰਕ |
| 3. | ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ ( 1701 ਤੋਂ 1900 ਤੱਕ) | 20 ਅੰਕ |
| 4. | ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ                           | 10 ਅੰਕ |
| 5. | ਭਾਸ਼ਾ ਵਿਗਿਆਨ                                | 10 ਅੰਕ |

**ਕੋਰਸ**

1. ਮੱਧਕਾਲੀ ਕਾਵਿ ਸੁਗੰਧੀਆਂ (ਸੰਪਾ.) ਡਾ. ਧਰਮ ਸਿੰਘ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।  
(ਨਿਰਧਾਰਤ ਕਵੀ: ਬਾਬਾ ਵਜੀਦ, ਅਲੀ ਹੈਦਰ, ਸੱਯਦ ਬੁੱਲ੍ਹੇ ਸ਼ਾਹ, ਸੱਯਦ ਵਾਰਿਸ ਸ਼ਾਹ, ਨਜਾਬਤ ਅਤੇ ਪੀਰ ਮੁਹੰਮਦ)
2. **ਦੁਨੀਆ ਇਕ ਮਹਿਲ ਹੈ**, ਗੁਰਬਖਸ਼ ਸਿੰਘ ਕਪੂਰ, ਕਸਤੂਰੀ ਲਾਲ ਐਂਡ ਸੰਨਜ਼, ਅੰਮ੍ਰਿਤਸਰ

**ਯੂਨਿਟ ਅਤੇ ਥੀਮ**

- |    |  |              |
|----|--|--------------|
| 1. | (ੳ) “ਮੱਧਕਾਲੀ ਕਾਵਿ ਸੁਗੰਧੀਆਂ” ਪੁਸਤਕ ਵਿਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿਚੋਂ ਇਕ)   | 10 ਅੰਕ       |
|    | (ਅ) ਕਾਵਿ ਪੁਸਤਕ ਵਿਚੋਂ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ -ਵਸਤੂ/ ਥੀਮ ਸਪਸ਼ਟ ਕਰਨਾ (ਦੋ ਵਿਚੋਂ ਇਕ)  | 10 ਅੰਕ       |
| 2. | (ੳ) “ <b>ਦੁਨੀਆ ਇਕ ਮਹਿਲ ਹੈ</b> ” ਸਫ਼ਰਨਾਮਾ ਪੁਸਤਕ ਦੇ ਆਧਾਰ ਉੱਤੇ ਪ੍ਰਮੁੱਖ ਥਾਵਾਂ ਤੇ ਘਟਨਾਵਾਂ ਦੇ ਵੇਰਵੇ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇਕ)                                      | 10 ਅੰਕ       |
|    | (ਅ) ਸਫ਼ਰਨਾਮੇ ਦੀ ਸਾਹਿਤਕ ਪਰਖ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ)  |              |
| 3. | ਕਾਵਿ ਸੰਗ੍ਰਹਿ ਤੇ ਸਫ਼ਰਨਾਮੇ ਵਿਚੋਂ ਲਘੂ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ( ਅੱਠ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਪੰਜ)<br>(ਪ੍ਰਸ਼ਨ ਦਾ ਉੱਤਰ ਤਿੰਨ-ਚਾਰ ਸਤਰਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ)                             | 2 x 5=10 ਅੰਕ |
| 4. | ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (1701 ਈ: ਤੋਂ 1900 ਈ: ਤੱਕ ਸੂਫੀ ਕਾਵਿ-ਧਾਰਾ ਤੇ ਕਿੱਸਾ - ਕਾਵਿ ਧਾਰਾ (ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ) (ਛੇ ਵਿਚੋਂ ਚਾਰ - ਉੱਤਰ 50 ਸ਼ਬਦਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) | 5 x 4=20 ਅੰਕ |
| 5. | ਭਾਰਤੀ ਕਾਵਿ-ਸ਼ਾਸਤਰ: (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ), ਰਸ ਸੰਪ੍ਰਦਾਇ, ਵਕੋਕਤੀ ਸੰਪ੍ਰਦਾਇ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ)  | 10 ਅੰਕ       |
| 6. | ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ: ਟਕਸਾਲੀ ਭਾਸ਼ਾ, ਵਿਅਕਤੀ ਭਾਸ਼ਾ, ਅਪਭਾਸ਼ਾ, ਗੁਪਤ ਭਾਸ਼ਾ, ਰਜਿਸਟਰ, ਪਿਜ਼ਨ ਤੇ ਕ੍ਰਿਓਲ (ਚਾਰ ਵਿਚੋਂ ਦੋ )  | 10 ਅੰਕ       |

**ਵਿਸ਼ੇਸ਼ ਨੋਟ** : ਸਮੁੱਚੇ ਪਾਠਕ੍ਰਮ ਲਈ ਹਫਤੇ ਵਿਚ 6 + 6 = 12 ਪੀਰੀਅਡ।

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**ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)**  
**ਬੀ.ਏ. ( ਜਨਰਲ ) ਭਾਗ ਦੂਜਾ, ਅਪ੍ਰੈਲ/ ਮਈ 2020 ਦੇ ਇਮਤਿਹਾਨ ਲਈ**  
**ਸਮੈਸਟਰ ਚੌਥਾ**

ਕੁੱਲ ਅੰਕ: 100  
ਲਿਖਤੀ: 90  
ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ: 10  
ਸਮਾਂ: 3 ਘੰਟੇ

ਪਾਠਕ੍ਰਮ

1.	ਮੱਧਕਾਲ ਦੀ ਚੋਣਵੀਂ ਕਵਿਤਾ	25 ਅੰਕ
2.	ਕਹਾਣੀ ਸੰਗ੍ਰਹਿ	25 ਅੰਕ
3.	ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ ( 1701 ਤੋਂ 1900 ਤੱਕ)	20 ਅੰਕ
4.	ਸਾਹਿਤ ਆਲੋਚਨਾ	10 ਅੰਕ
5.	ਉਪਭਾਸ਼ਾ ਵਿਗਿਆਨ	10 ਅੰਕ

ਕੋਰਸ

1.	ਮੱਧਕਾਲੀ ਕਾਵਿ ਸੁਗੰਧੀਆਂ (ਸੰਪਾ.) ਡਾ. ਧਰਮ ਸਿੰਘ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ। (ਨਿਰਧਾਰਤ ਕਵੀ: ਹਾਸ਼ਮ ਸ਼ਾਹ, ਕਵੀ ਸੌਧਾ, ਕਾਦਰਯਾਰ, ਸ਼ਾਹ ਮੁਹੰਮਦ ਅਤੇ ਭਗਵਾਨ ਸਿੰਘ)	
2.	ਕਥਾ-ਪ੍ਰਵਾਹ (ਸੰਪਾ.) ਸੁਰਿੰਦਰ ਕੁਮਾਰ ਦਵੇਸ਼ਵਰ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ। ਯੂਨਿਟ ਅਤੇ ਥੀਮ	
1.	(ੳ) ਮੱਧਕਾਲੀ ਕਾਵਿ ਸੁਗੰਧੀਆਂ ਪੁਸਤਕ ਵਿਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿਚੋਂ ਇਕ)	10 ਅੰਕ
	(ਅ) ਨਿਰਧਾਰਤ ਕਾਵਿ-ਪੁਸਤਕ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਕਾਵਿ- ਬੰਦ ਦੀ ਵਿਹਾਰਕ ਸਮੀਖਿਆ (ਦੋ ਵਿਚੋਂ ਇਕ)	10 ਅੰਕ
2.	(ੳ) ਕਥਾ-ਪ੍ਰਵਾਹ ਪੁਸਤਕ ਵਿਚੋਂ ਘਟਨਾਵਾਂ, ਥੀਮ, ਪਾਤਰ ਚਿਤਰਨ ਤੇ ਕਥਾ ਜੁਗਤਾਂ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇਕ)	10 ਅੰਕ
	(ਅ) ਕਹਾਣੀ ਸੰਗ੍ਰਹਿ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਕਹਾਣੀ ਦੀ ਸਾਹਿਤਕ ਪਰਖ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ)	10 ਅੰਕ
3.	ਕਾਵਿ ਸੰਗ੍ਰਹਿ ਤੇ ਕਹਾਣੀ ਸੰਗ੍ਰਹਿ ਵਿਚੋਂ ਲਘੂ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਅੱਠ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਪੰਜ) (ਪ੍ਰਸ਼ਨ ਦਾ ਉੱਤਰ ਤਿੰਨ-ਚਾਰ ਸਤਰਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ)	2 x 5=10 ਅੰਕ
4.	ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (1701 ਈ: ਤੋਂ 1900 ਈ:) ਵਾਰ ਕਾਵਿ, ਜੰਗਨਾਮਾ ਅਤੇ ਵਾਰਤਕ ਸਾਹਿਤ (ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ) (ਛੇ ਵਿਚੋਂ ਕੋਈ ਚਾਰ-ਉੱਤਰ 50 ਸ਼ਬਦਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ)	5 x 4=20 ਅੰਕ
5.	ਸਾਹਿਤ ਆਲੋਚਨਾ: ਸਾਹਿਤ ਤੇ ਸਮਾਜ, ਸਾਹਿਤ ਤੇ ਸਖਸ਼ੀਅਤ, ਸਾਹਿਤ ਤੇ ਸ਼ੈਲੀ, ਸਾਹਿਤ ਤੇ ਮਨੋਵਿਗਿਆਨ, ਸਾਹਿਤ ਤੇ ਵਿਗਿਆਨ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ)	10 ਅੰਕ
6.	ਉਪਭਾਸ਼ਾ ਵਿਗਿਆਨ : ਉਪਭਾਸ਼ਾ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਭਾਸ਼ਾ ਤੇ ਉਪਭਾਸ਼ਾ, ਉਪਭਾਸ਼ਾ ਦੀਆਂ ਪਛਾਣ ਵਿਧੀਆਂ।	10 ਅੰਕ

ਸਹਾਇਕ ਪੁਸਤਕਾਂ:

1. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (1701-1900), ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।
  2. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (1701-1900), ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
  3. ਪਰਮਿੰਦਰ ਸਿੰਘ ਤੇ ਕਿਰਪਾਲ ਸਿੰਘ ਕਸੇਲ, 'ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੀ ਉਤਪਤੀ ਤੇ ਵਿਕਾਸ', ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
  4. ਸਿੱਧੂ, ਪਰਮਜੀਤ ਸਿੰਘ (ਡਾ.), ਮਾਨਵ ਵਿਗਿਆਨਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 1998.
  5. ਸੰਘਾ, ਸੁਖਵਿੰਦਰ ਸਿੰਘ (ਸੰਪਾ.), ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ, ਜਲੰਧਰ
  6. ਆਹੂਜਾ, ਰੋਸ਼ਨ ਲਾਲ (ਡਾ.), ਸਾਹਿਤ ਸ਼ਾਸਤਰ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
  7. ਧਾਲੀਵਾਲ, ਪ੍ਰੇਮ ਸਿੰਘ (ਡਾ.), ਰੂਪ ਵਿਗਿਆਨ ਅਤੇ ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ, ਮਦਾਨ ਪਬਲੀਕੇਸ਼ਨਜ਼, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2002.
  8. ਉਹੀ, 'ਸਿਧਾਂਤਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ', ਮਦਾਨ ਪਬਲੀਕੇਸ਼ਨਜ਼, ਪਟਿਆਲਾ, 2002
  9. ਬਰਾੜ, ਬੂਟਾ ਸਿੰਘ (ਡਾ.), 'ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਸ਼੍ਰੇਣੀ ਤੇ ਸਰੂਪ', ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਉਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ 2012.
  10. ਜੋਸ਼ੀ, ਜੀਤ ਸਿੰਘ, ਪੰਜਾਬੀ ਅਧਿਐਨ ਤੇ ਅਧਿਆਪਨ ਬਦਲਦੇ ਪਰਿਪੇਖ, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਉਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ
- ਵਿਸ਼ੇਸ਼ ਨੋਟ: ਸਮੁੱਚੇ ਪਾਠਕ੍ਰਮ ਲਈ ਹਫ਼ਤੇ ਵਿਚ 6+6= 12 ਪੀਰੀਅਡ।

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## संस्कृत (इलैक्टिव)

बी.ए.(जनरल) द्वितीय वर्ष

## SEMESTER-III

Paper - Sanskrit :

श्रीमद्भगवद्गीता एवं व्याकरण  
(आन्तरिक परीक्षा- 10, लिखित परीक्षा- 90)

पूर्णांक: 90+10=100

समय-3 घण्टे

## निर्देश 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 अद्वितीय ग्रन्थ रत्न श्रीमद्भगवद्गीता (चतुर्थ अध्याय) में प्रतिपादित निष्काम कर्मयोग, समत्व योग में स्थित योगी पुरुषों का आचरण एवं उनकी महिमा, विभिन्न प्रकार के ज्ञानयज्ञ तथा ज्ञान का महत्त्व इत्यादि विषयों का अध्ययन करवाना।
- इसके अतिरिक्त व्यावहारिक शब्दावली द्वारा विद्यार्थियों की संस्कृत के प्रति रुचि जागृत करना।
- संस्कृत पूर्ण वैज्ञानिक एवं व्याकरणनिष्ठ भाषा है। अतः विद्यार्थियों को संस्कृत व्याकरण के प्रमुख नियमों का बोध कराना।
- पत्र का अध्ययन समय नौ पीरियड(प्रतिघण्टा) प्रतिसप्ताह होगा, जिसमें तीन पीरियड कम्पोजिशन के होंगे।
- सभी प्रश्नों में शतप्रतिशत अथवा निर्दिष्ट विकल्प आवश्यक हैं।

## UNIT-I

(क) गीता (चतुर्थ - अध्याय) (दो सूक्ति/श्लोक : सप्रसंग अनुवाद एवम् व्याख्या)

2x10= 20 अंक

(ख) गीता (चतुर्थ अध्याय) पर आधारित समीक्षात्मक लघुप्रश्न

05 अंक

## UNIT-II

(ग) व्यावहारिक संस्कृत शब्दावली : वस्त्र, आभूषण एवं शृंगारपरक (15 में से 10 शब्दों की संस्कृत) 10x 1 = 10 अंक

- |                                  |                           |                                 |
|----------------------------------|---------------------------|---------------------------------|
| 1. कंबल-कम्बलः                   | 2. कुरता-कञ्चुकः          | 3. कोट-प्रावारः                 |
| 4. चादर-प्रच्छदः, शय्याच्छादनम्  | 5. जूता-उपानत्            | 6. तकिया-उपधानम्                |
| 7. दरी-आस्तरणम्                  | 8. दुपट्टा-उत्तरीयम्      | 9. धोती-अधोवस्त्रम्,            |
| 10. पगडी-शिरस्त्रम् उष्णीकम्     | 11. परदा-यवनिका           | 12. पायजामा-पादयामः             |
| 13. पैट-आप्रपदीनम्               | 14. रुमाल-करवस्त्रम्      | 15. शेरवानी-प्रावारकम्          |
| 16. साडी-साटिका                  | 17. स्वेटर-उर्णावरकम्     | 18. कपडा-वस्त्रम्, वसनम्, चीरम् |
| 19. अंगूठी-अङ्गुलीयकम्, मुद्रिका | 20. कंगना-कंकणः           | 21. कान की बाली-कुण्डलम्        |
| 22. गहना-अलङ्कारः, आभरणम्        | 23. घुंघरू -किंकिणी       | 24. चूडी-काचवलयः, काचवलयम्      |
| 25. नथ-छोलिका                    | 26. पाजेब-नूपुरः, नूपुरम् | 27. बाजूबंद (ब्रेस लेट)-केयूरम् |
| 28. हार-हारः                     | 29. सोने का कडा-कटकः      | 30. आयना (शीशा)-दर्पणः, आदर्शः  |



- |                           |  |                               |
|---------------------------|--|-------------------------------|
| 31. इत्र (सैंट)-गन्धतैलम् | 32. उबटन - उद्वर्तनम्                    | 33. कंघी-प्रसाधनी             |
| 34. काजल-अञ्जनम्, कज्जलम् | 35. क्रीम-शरः                            | 36. ड्रेसिंग टेबल-शृंगारफलकम् |
| 37. तिलक-तिलकम्           | 38. दाँत का ब्रुश-दन्तधावनम्, दन्तकूर्चः | 39. नेल पोलिश-नखरंजनम्        |
| 40. बिन्दी-बिन्दुकः       | 41. पाउडर-चूर्णकम्                       | 42. मंजन-दन्तचूर्णम्          |
| 43. मेहदी-मञ्जिष्ठा       | 44. लिपस्टिक-ओष्ठरंजनम्                  | 45. साबुन-फेनिलम्, फेनकम्     |
| 46. सिन्दूर-सिन्दूरम्     | 47. दाँत कूरेदने की सूई-दन्तशोधनी        | 48. महावर-अलक्तका             |
| 49. रूज-कपोलरंजनम्        | 50. सिंगारदान-शृंगारधानम्, शृंगारपिटकम्  |                               |

## UNIT-III

- |  |           |
|--|-----------|
| (घ) व्यञ्जन सन्धि  | 5x1=05अंक |
| (ङ) द्वन्द्व- समास   | 5x1=05अंक |
| (च) तद्धित प्रत्यय : अण् , मतुप् , तरप् , तमप् - केवल उदाहरण ही प्रष्टव्य हैं) | 5x1=05अंक |

## UNIT-IV

- |   |           |
|---|-----------|
| (छ) शब्दरूप : तत्, एतत्, यत्(तीनों लिंगों में) राजन् तथा चन्द्रमस्                                      | 2x5=10अंक |
| (ज) धातुरूप : अस्, दा, कुप्, शक्, प्रच्छ, मिल् (केवल लट्, लोट्, लृट्, लङ्, विधिलिङ् लकार में)           | 2x5=10अंक |
| (झ) छन्द : अनुष्टुप्, वंशस्थ, इन्द्रवज्रा, उपेन्द्रवज्रा, उपजाति (दो के ही सोदाहरण लक्षण प्रष्टव्य हैं) | 2x5=10अंक |

## UNIT-V

- |  |           |
|--|-----------|
| (ज) हिन्दी से संस्कृत में अनुवाद (10 में से 5 वाक्य) | 5x2=10अंक |
| सहायक पुस्तक:- शीघ्रबोध, चौखम्बा प्रकाशन, वाराणसी    |           |

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## संस्कृत (इलेक्टिव)

बी.ए.(जनरल) द्वितीय वर्ष

## SEMESTER-IV

Paper - Sanskrit :

नाटक एवं व्याकरण

पूर्णांक: 90+10=100

(आन्तरिक परीक्षा- 10, लिखित परीक्षा- 90)

समय-3 घण्टे

## निर्देश तथा उद्देश्य-

- प्रश्नपत्र का माध्यम हिन्दी होगा। उत्तरों का माध्यम संस्कृत, हिन्दी, पंजाबी या अंग्रेजी में से कोई एक भाषा होगी।
- संस्कृत नाट्यविद्या के स्वरूप और प्रवृत्तियों से परिचित कराना।
- इसके अतिरिक्त व्यावहारिक शब्दावली द्वारा विद्यार्थियों की संस्कृत के प्रति रुचि जागृत करना।
- संस्कृत पूर्ण वैज्ञानिक एवं व्याकरणनिष्ठ भाषा है। अतः विद्यार्थियों को संस्कृत व्याकरण के प्रमुख नियमों का बोध कराना।
- पत्र का अध्ययन समय नौ पीरियड(प्रतिघण्टा) प्रतिसप्ताह होगा, जिसमें तीन पीरियड कम्पोजिशन के होंगे।
- सभी प्रश्नों में शतप्रतिशत अथवा निर्दिष्ट विकल्प आवश्यक हैं।

## UNIT-I

- (क) दूतवाक्यम् - भास (तीन सूक्ति/श्लोक : सप्रसंग अनुवाद एवम् व्याख्या) 3x10=30 अंक
- (ख) समीक्षात्मक लघु प्रश्न, पात्र चरित्र चित्रण, लेखक परिचय, रचनाएँ व दूतवाक्यम् की विषयवस्तु 5 अंक

## UNIT-II

- (ग) व्यावहारिक संस्कृत शब्दावली : अन्न, भोजन एवं तत्सम्बद्ध पात्र (15 में से 10 शब्दों की संस्कृत) 10x1=10 अंक

- |                                |                                       |                        |
|--------------------------------|---------------------------------------|------------------------|
| 1. अरहर-आढकी                   | 2. उडद-माषः                           | 3. गेहूँ-गोधूमः        |
| 4. गेहूँ का आटा - गोधूमचूर्णः  | 5. चना-चणकः                           | 6. जौ-यवः              |
| 7. चावल-तण्डुलः, व्रीहिः       | 8. ज्वार-यवनालः                       | 9. तिल-तिलः            |
| 10. दाल-द्विदलम्               | 11. धान-धान्यम्, शालिः                | 12. बाजरा-प्रियङ्गुः   |
| 13. बेसन-चणकचूर्णम्            | 14. मसूर-मसूरः                        | 15. मूंग-मुद्गः        |
| 16. सत्तु-सक्तुः               | 17. सरसों-सर्षपः                      | 18. हल्दी-हरिद्रा      |
| 19. अचार-सन्धितम्              | 20. गरम भोजन-उष्णभोजनम्               | 21. खिचडी-कृशरः        |
| 22. चटनी-अवलेहः                | 23. चिकना-चिकणम्                      | 24. ठंडाभोजन-शीतभोजनम् |
| 25. भरता-भर्ता                 | 26. भात-ओदनः, ओदनम्                   | 27. मट्ठा-तक्रम्       |
| 28. रसोई-रसवती, पाकशाला, महानस | 29. रायता-राज्यक्तम्                  | 30. रोटी-रोटिका        |
| 31. शक्कर-शर्करा               | 32. समोसा-समोषः                       | 33. सौंफ-मधुरः         |
| 34. हींग-हिंगुः                | 35. अंगीठी-हसन्ती                     | 36. कटोरा-कटोरम्       |
| 37. कडाही-कटाहः, स्वेदनी       | 38. कांच का गिलास - काचकंसम्, काचचषकः |                        |

- |                       |                     |                           |
|-----------------------|---------------------|---------------------------|
| 39. गिलास-कंसम्, चषकः | 40. घडा-घटः, कुम्भः | 41. चम्मच-चमसः            |
| 42. चीमठा-सन्दंशः     | 43. टव-द्रोणी       | 44. थाली-स्थालिका, थालिका |
| 45. प्लेट - शरावः     | 46. बाल्टी-उदञ्चनम् | 47. लोटा-करकः             |
| 48. स्टोव-उद्घमानम्   | 49. बेलन-वेलनम्     | 50. चाकू-छुरिका           |

### UNIT-III

- (घ) तत्पुरुष - समास 5x1=05अंक
- (ङ) कृदन्त प्रत्यय : क्त, क्तवत्, क्त्वा तथा तुमुन् प्रत्यय 5x1=05अंक
- (गम्, पठ्, पत्, क्रीड्, वद्, पा, लिख्, नी, वृश्, भू, त्यज्, स्मृ, अस्, दा, कुप्, शक्, प्रच्छ्,  
मिल्, कृ, क्री, ग्रह, ज्ञा, श्रु, कथ् - इन धातुओं के योग में)
- (च) शब्दरूप : किम् व सर्व (तीनों लिंगों में), महत् व बलवत् (पुलिङ्ग में) एवं कति 2x5=10अंक

### UNIT-IV

- (छ) धातुरूप : कृ, क्रीञ्, ग्रह्, ज्ञा, श्रु तथा कथ् (केवल लट्, लोट्, लृट्, लङ्, विधिलिङ् लकार में) 2x5=10अंक
- (ज) कारक (केवल सामान्य नियम-अशुद्ध वाक्यों को शुद्ध करना) 5x1=05अंक

### UNIT-V

- (झ) छन्द : शिखरिणी, मन्दाक्रान्ता, मालिनी, वसन्ततिलका तथा भुजंगप्रयात (दो के ही सोदाहरण लक्षण प्रष्टव्य हैं) 10अंक
- सहायक पुस्तक:- शीघ्रबोध, चौखम्बा प्रकाशन, वाराणसी

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**URDU (Elective)****SEMESTER-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 Akbrabadi

-

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 &amp; II above)

15 marks

**Unit-IV**

Introduction and literary contribution of the poets &amp; 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:**

1. Khyaban-e-Adab by, Azimul Haq Junedi, Educational BookHouse, AMU Market, Aligarh.

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**URDU (Elective)**  
**SEMESTER-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.

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

**Instructions to the paper setter/examiner :**

There will be one paper in each Semester i.e. 3<sup>rd</sup> and 4<sup>th</sup> Semester of 90 marks each and Internal Assessment of 10 marks for the session of 2019-2020.

**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.

- i. Intekhab-e-Sarzamin-e-Hind-Ali Asghar Hikmat.
- ii. Dastan-e-Kutah by Mohammad Hejazi.

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**PERSIAN (Elective)****SEMESTER-IV****Instructions to the paper setter/examiner :**

There will be one paper in each Semester i.e. 3<sup>rd</sup> and 4<sup>th</sup> Semester of 90 marks each and Internal Assessment of 10 marks for the session of 2019-2020.

**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-Khdsrow:**

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**

Text Book : Saison-2 (Dossier 0-4) 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:**

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>

2. Victor HUGO  
Recueil : *Les contemplations*  
*Demain, dès l'aube*

<http://poesie.webnet.fr/lesgrandsclassiques/poemes>

3. Jacques PREVERT  
Recueil : *Paroles*  
*Le cancre*

<http://www.unjourunpoeme.fr/poeme/le-cancre>

4. Jacques PREVERT  
Recueil : *Paroles*  
*Déjeuner du Matin*

<https://vivelapoesie.wordpress.com/>

5. Paul VERLAINE  
*Il pleure dans mon cœur*

<http://poesie.webnet.fr/lesgrandsclassiques/poemes/paul-verlaine>

**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. 3<sup>rd</sup> 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) 4TH SEMESTER:****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 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 (of 3 marks each).	15 Marks
	(b) Questions on applied grammar, including conjugation of verbs in applied form, from the text book.	15 Marks

**CHOICE TO BE GIVEN IN ALL QUESTIONS**

## Courses of Reading

Text Book : Saison (Units 5-9) Méthode de Français par Marie-NoëlleCocton, Anneline Dintilhac, Dorothée Dupleix, Delphine de Ripaux, Anouchka Oliveira, Les Editions Didier, 2014.

(a) 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*  
<http://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 'Exercice de style' ...Only the following topics/pages are to be studied.

Sr. No.	Title	Page No.
1.	Surprises	13
2.	Rêve	14
3.	L'arc-en-ciel	17
4.	Hésitations	20
5.	Précisions	22
6.	Récit	27
7.	Négativité	29
8.	Lettre officielle	36
9.	Analyselogique	40
10.	Insistence	42
11.	Ignorance	45
12.	Présent	48
13.	Imparfait	50
14.	Moi je	57
15.	Exclamations	59
16.	Alors	61
17.	Interrogatoire	65
18.	Comédie	67
19.	Philosophique	75
20.	Impuissant	138

All questions are to be asked and answered in French.

Viva:	30 Marks
<b>Reading:</b>	
Seen	10 Marks
Unseen	10 Marks
Conversation	10 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:**

- i. “Lagune-2” Kursbuch (**2006 Edition**) by Hartmut Aufderstraße a.o: Chapters 1-17 upto page 87.
- 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

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**GERMAN (Elective)****SEMESTER-IV****Summary**

Max. Marks	: 100marks(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  
(5 questions) 30 marks
- ii. Questions on “Culture & Civilization” from the prescribed text-book “Lagune-2”: Chapters 18-34  
(4 out of 5 questions to be attempted) 15 marks
- 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:**

- iii. “Lagune-2” Kursbuch (**2006 Edition**) by Hartmut Aufderstraße a.o: Chapters 18-34.
- iv. Texte zum Lesen und Nacherzählen by Hans-Joachim Arndt, Hueber Verlag, page 12-21.

**Supplementary book:**

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

**RUSSIAN (Elective)****SEMESTER-III****Paper-A (General Translation, Grammar, Composition and Comprehension): Written**

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

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)  
(Covered in Lessons 31-37, Wagner) **15 marks**
4. Question on prescribed texts in Russian : 3 questions out of 5 (5 marks each)  
(Covered in Lessons 31-37, Wagner) **15 marks**
5. Composition (One out of three) on the following topics: **15 marks**  
1. My friend 2. My Country 3. My favorite writer 4. Our Library
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**

1. A.K. Maurya: ESSENTIAL RUSSIAN, University of Delhi, 2004.
2. S Khavronina: Russian in Exercise, 1978
3. I. Pulkina: RUSSIAN A Practical Grammar with Exercise, Russky Yazik. Pub. H. Moscow
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**

<b>Maximum Time</b>	: 3 hrs.	<b>Max. Marks</b>	: 70
		<b>Theory</b>	: 60 marks
		<b>Internal Assessment (For regular students)</b>	: 10 marks

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**  
 1. Our City      2. Our University      3. A Cultural evening      4. Journey/Excursion
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**

1. A.K. Maurya: ESSENTIAL RUSSIAN, University of Delhi, 2004.
2. S Khavronina: Russian in Exercise, 1978
3. I. Pulkina: RUSSIAN A Practical Grammar with Exercise, Russky Yazik. Pub. H. Moscow
4. Dictionaries: English-Russian dictionary.  
Russian-English dictionary.

**(iii) Oral/Practical**

**Maximum Marks:30**

Reading of text(s) and conversation in simple Russian

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

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**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**

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## PHYSICAL EDUCATION

### B.A. (GENERAL) THIRD SEMESTER EXAMINATION, 2019-2020

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

#### 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

12 Marks

#### 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 :**

1. Blair Jones & Simpson : "*Educational Psychology* ", The MacMillan Co., New York, 1962.
2. Brown, R. : "*Social Psychology*", Free Press, New York, 1965.
3. Bucher, Charles A. : "*Foundations of Physical Education*", St. Louis, 1979, The C.V. Mosby Company.
4. Conger, J.J.: "*Adolescence and Youth : Psychological Development in a Changing World,*" 22<sup>nd</sup> Edition, 1977, Harper and Row, New York.

5. Cratty, B.J.: “ *Psychology and Physical Activity*”, Englewood Cliffs, N.J., Prentice Hall, 1968
6. Hollander, E.P.: “ *Principles and Methods of Social Psychology*”, New York, 1971, Oxford University Press.
7. Linsa, M.I., “*Child-Adults, Peers : Patterns Communication*”, Progress Publishers, Moscow, 1985.
8. Linggren, H.E.: “ *Educational Psychology in the Class Room*”, John Wiley & Sons, New York, 1962.
9. Loy, John W. and Kenyon Gerald, S. : “*Sport, Cultural and Society : A Reader on the Sociology of Sport*”, London, 1969, The MacMillan Co.
10. Hurlock, E.B. : “ *Adolescent Development*”, Appleton Century Crofts, New York, 1956.
11. Rushall, Brent S. and Siedentop : “*The Development and Control of Behaviour in Sport and Physical Daryl Education*”, Philadelphia, 1972, Lea and Febiger.
12. Shaphard, R.J. : “*The Fit Athlete*”, Oxford University Press, 1978.
13. Singh, Ajmer et. al. : *Modern Text Books of Physical Education, Health and Sports*, Kalyani Publishers, Ludhiana, 2000.
14. Talamini, John T. and Page & Charles, H. : “*Sport & Society – An Anthology*”, Boston, 1973, Little Brown Co.
15. Walia, J.S. : “*Foundations of Educational Psychology*”, Paul Publishers, Jalandhar City, 1992.
16. Wilmore, Jack H. : “*Athletic Training and Physical Fitness*”, 1977, Allyn and Bacon, Inc., 470, Atlantic Avenue, Boston, Massachusetts.

## PRACTICAL

<b>Max.Marks :</b>	<b>35</b>
<b>Practical :</b>	<b>30</b>
<b>Internal assessment:</b>	<b>5</b>

### 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.**

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**PHYSICAL EDUCATION**  
**B.A. (GENERAL) FOURTH SEMESTER EXAMINATION, 2019-2020**

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**

12 Marks

**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**

12 Marks

**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 (Padmasana, Vajrasana, and Sukhasana), their technique, precautions and effects/advantages.
- Cultural poses (Savasana, 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**

12 Marks

**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 :**

1. Chaurasia, B.D. : *"Handbook of General Anatomy"*, CBS Publishers and Distributors, First Edition, 1981.
2. Dandiya, P.C., Jafer, Z.Y. K. and Jafer Afifa: *"Health Education and Community Pharmacy"*, Second Edition, 1996, Reprinted in 1998, Vallabh Prakashan, Pitampura, New Delhi.
3. Govt. of India : *"Occupational Diseases : A Guide to Recognition and Notification"*, Chief Adviser Factories, Ministry of Labour and Employment, New Delhi, 1955.
4. Park, J.E. & Park, K. : *"Text Book of Preventive and Social Medicine"*, 10<sup>th</sup> Edition, 1985, Banarsi Dass Bhanot, Jabalpur, India.
5. Parrot, J.W. : *"Anatomy and Physiology for Physical Education Assistant Professors"*, Lend : Edward Arnold Ltd., 1983.
6. Rao, M.N. and Lundgren, N.P.V. : *"A Review of Occupational Health Research in India"*, ICMR, New Delhi, 1955.
7. Rose & Wilson : *"Foundations of Anatomy and Physiology"*, 5th Edition, 1981, Reprinted in 1985.
8. Winter Griffith, H. : *"Complete Guide to Sports Injuries"*, First Indian Edition, 1989, Metropolitan Book Co. Pvt. Ltd., New Delhi.
9. Sampath, K. & Uma Maheshwar, B. : *"Human Anatomy & Physiology"*, First Edition, 1999- 2000, Birla Publications, Delhi.
10. Singh, Ajmer et. al. : *"Modern Text Book of Physical Education, Health and Sports"*, Kalyani Publishers, Ludhiana, 2000.
11. Smith, Olive and F. Guthrie : *"Rehabilitation and Remedial Exercise"*, Bailliere, Tindall and Cox Limited, London, 1949.
12. Sri Anand : *"The Complete Book of Yoga : Harmony of Body and Minds"*, Orient Paper Back, New Delhi, 1980.
13. Staford, T. & Ellen Davis Kelly : *"Preventive and Corrective Physical Education"*, Third Edition, 1958, Ronald Press Co., New York.
14. Swami Kuvalyananda : *"Kaivalyadhama"*, Lonavala, Bombay, 1933.
15. Vijayendra Pratap : *"A Teacher's Guide for Beginning Yoga"*, First Edition, 1987, Sky Foundations, Philadelphia, Pennsylvania, U.S.A.
16. World Health Organisation : *"Health Hazards of the Human Environment"*, Geneva, 1962.



<b>PRACTICAL</b>	<b>Max. Marks</b>	: 35
	<b>Practical</b>	: 30
	<b>Internal Assessment</b>	: 05

## GAMES

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

### Basketball

- Measurements (Basket ball ground).
- Number of players and officials.
- Rules and Regulations of the game.
- Fundamental and basic skills.

### Football

- Measurements (Field & ball).
- Number of players and officials.
- Rules and Regulations of the game.
- 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:

- 12 periods per week (6 periods each for theory and practical) shall be allotted to a class.
- The theory and practical class shall consist of 60-80 students and 30-40 students respectively.
- The theory and practical papers shall consist of 65 and 35 marks each.
- 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.
- The choice of games by the students shall be confined to games approved by the Association of Indian Universities.
- 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:

- 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.
- This subject should be offered to the normal students (not to disabled one).
- To measure Physical Fitness through Cardiovascular Fitness Test, Cooper's 9 Minutes or 12 Minutes Run-Walk Test should be conducted.
- 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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**EDUCATION****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-III****Paper-III : 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 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**

Philosophy of Education – Definition, Nature and Scope.

Difference between Educational Philosophy and Philosophy of Education.

**UNIT-III**

Educational Sociology – Definition, Nature and Scope.

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 :**

1. Aggarwal, J.C. : *Theory and Principles of Education*, Vikas Publishing House Pvt. Ltd., New Delhi, 2003.
2. Bhatia, K.K. and Narang, C.L. : *Philosophical and Sociological Bases of Education*, Tondon Publications, Ludhiana, 2002.
3. Sataya, R.N. and Shaida, B.D. : *Development of Educational Thought and Practice*, Dhanpat Rai Publishing Company (P.), New Delhi, 1996.
4. Taneja, V.R. : *Foundations of Education*, Mohindra Capital Publishers, Panchkula, 1998
5. Singh, K. : *Vidiyak Manovigian*, Gujral Book Depot, Patiala, 1999.

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**EDUCATION**  
**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**  
**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 :**

1. Batra, Promod : *Simple Ways to Manage Stress*, Think Inc., Delhi, 1997.
2. Carewell, M., Clark, L. & Meldrum, C. : *Psychology*, Harper Collins Publishers Ltd., London, 2000.
3. Clare, Sylvia : *Emotions –Releasing Your Child's Potential*, UBS Publishers and Distributors, New Delhi, 2003.
4. Chauhan, S.S. : *Advanced Educational Psychology*, Vikas Publishing House Pvt. Ltd., New Delhi, 2003.
5. Dhaliwal, A.S. : *Vidyak Mnovigian*, Punjabi University, Patiala, 2001.
6. Dutt, Sunil & Sodhi, G.S. : *Teaching Learning – A Process Approach*, Samir Publications, Chandigarh, 1995.
7. Goleman Daniel : *Emotional Intelligence*, Baanam Books, New York, 1995.
8. Kirk, Semual : *Educating the Exceptional Child*, I.B.H. Publishing Co., Calcutta, 1992.
9. Mangal, S.K. : *Advanced Educational Psychology*, Prentice Hall of India Ltd., New Delhi, 2002.
10. Panda, K.C. : *Education of Exceptional Children*, Vikas Publishing House Pvt. Ltd., New Delhi, 2003.

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**ADULT EDUCATION**  
**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**  
**Semester –III**

<b>Theory</b>			<b>Time</b>	<b>Practical</b>		
Marks	+	Internal Assessment	3 Hours	Marks	+	Internal Assessment
45	+	05		45	+	05

**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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**ADULT EDUCATION**  
**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**  
**Semester –IV**

<b>Theory</b>			<b>Time</b>	<b>Practical</b>		
Marks	+	Internal Assessment	3 Hours	Marks	+	Internal Assessment
45	+	05		45	+	05

**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, 2019-2020****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 to 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.
- 3 Knowledge of Lakshans of Ragas in Modern Period.

**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 Kehrvaa 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:**

1. *Sangeet Visharad* : Sangeet Karyalaya, Hathras (U.P.).
2. *Rag Parichaya Part II* : H.C. Srivastav, Sangeet Sadan Prakashan, 134, South Malaka, Allahabad.
3. *Sangeet Kaumudi Part IV (Punjabi)* : S.S. Kareer, published by Punjabi University, Patiala.
4. *Hamare Sangeet Ratna* : Sangeet Karyalaya, Hathras (U.P.).
5. *Sangeet Sar Part II* : Mrs. Veena Mankaran, Raj Publishers (Regd.) Adda Tanda, Jalandhar City.
6. *Kramik Pustak Malika Part I to IV* : Pt. V.N. Bhatkhande, Sangeet Karyalaya, Hathras.
7. *Rag–Vigyan Part I to VII* : Pt. V. Patwardhan.
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 to 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, Bhimplasi
  - 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, Bhimplasi.
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:**

1. *Sangeet Visharad* : Sangeet Karyalaya, Hathras (U.P.).
2. *Rag Parichaya Part II* : H.C. Srivastav, Sangeet Sadan Prakashan, 134, South Malaka, Allahabad.
3. *Sangeet Kaumudi Part IV (Punjabi)* : S.S. Kareer, published by Punjabi University, Patiala.
4. *Hamare Sangeet Ratna* : Sangeet Karyalaya, Hathras (U.P.).
5. *Sangeet Sar Part II* : Mrs. Veena Mankaran, Raj Publishers (Regd.) Adda Tanda, Jalandhar City.
6. *Kramik Pustak Malika Part I to IV* : Pt. V.N. Bhatkhande, Sangeet Karyalaya, Hathras.
7. *Rag–Vigyan Part I to VII* : Pt. V. Patwardhan.
8. *Sangeet Shastra Vigyan* : Panna Lal Madan
9. *Sangeet Kala ka Itihas* : Panna Lal Madan

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**MUSIC (Instrumental)**  
**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**  
**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) : 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 Ghamak and its varieties.
- 2 Brief knowledge of Gram.
- 3 Gun and Dosh of Vada.

**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:**

1. *Sangeet Visharad* : Sangeet Karyalaya, Hathras (U.P.).
  2. *Rag Parichaya Part II* : H.C. Srivastav, Sangeet Sadan Prakashan, 134, South Malaka, Allahabad.
  3. *Sangeet Kaumudi Part IV (Punjabi)* : S.S. Kareer, published by Punjabi University, Patiala.
  4. *Hamare Sangeet Ratna* : Sangeet Karyalaya, Hathras (U.P.).
  5. *Sangeet Sar Part II* : Mrs. Veena Mankaran, Raj Publishers (Regd.) Adda Tanda, Jalandhar City.
  6. *Kramik Pustak Malika Part I to IV* : Pt. V.N. Bhatkhande, Sangeet Karyalaya, Hathras.
  7. *Rag–Vigyan Part I to VII* : Pt. V. Patwardhan.
  8. *Sangeet Shastra Vigyan* : Panna Lal Madan
  9. *Sangeet Kala ka Itihas* : Panna Lal Madan
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**MUSIC (Instrumental)**  
**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**  
**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 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.

<b>Paper-A: THEORY</b> (3 Hours duration)		: 45 marks
<b>(Duration 45 minutes 06 practical+ 02 Theory periods per week)</b>		
<b>Paper-B: PRACTICAL</b> (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
<b>Total</b>		<b>: <u>100 marks</u></b>

**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 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 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:**

1. *Sangeet Visharad* : Sangeet Karyalaya, Hathras (U.P.).
2. *Rag Parichaya Part II* : H.C. Srivastav, Sangeet Sadan Prakashan, 134, South Malaka, Allahabad.
3. *Sangeet Kaumudi Part IV (Punjabi)* : S.S. Kareer, published by Punjabi University, Patiala.
4. *Hamare Sangeet Ratna* : Sangeet Karyalaya, Hathras (U.P.).
5. *Sangeet Sar Part II* : Mrs. Veena Mankaran, Raj Publishers (Regd.) Adda Tanda, Jalandhar City.
6. *Kramik Pustak Malika Part I to IV* : Pt. V.N. Bhatkhande, Sangeet Karyalaya, Hathras.
7. *Rag–Vigyan Part I to VII* : Pt. V. Patwardhan.
8. *Sangeet Shastra Vigyan* : Panna Lal Madan
9. *Sangeet Kala ka Itihas* : Panna Lal Madan

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**Music (Tabla)****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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. Jhaptal, 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 laggi 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                 |
| 5. Hamare Sangeet Ratan        | : | Sangeet Karyalaya, Hathras. |
| 6. Tabla ki Utpatti Evam Vikas | : | Yogmaya Shukla.             |
| 7. Tabla Vadan Part-1          | : | 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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**Music (Tabla)****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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.
3. Brief description of Pt. V.D. Pulaskar Taal notation system.

**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 3<sup>rd</sup> 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                 |
| 5. Hamare Sangeet Ratan        | : | Sangeet Karyalaya, Hathras. |
| 6. Tabla ki Utpatti Evam Vikas | : | Yogmaya Shukla.             |
| 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 (Indian Classical Dance)****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-III****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.

<b>THEORY</b> (Time duration 3 hours)	:	45 Marks
<b>PRACTICAL</b> (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.
3. Survey of essential characteristics of Manipuri 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. Comparison of Classical and Folk Dance.
2. Folk Dance of Himachal.
3. Brief. Study of Rasa.

**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 Chautaal.
3. Notation of Thaat, Amad, Tora and Paran in Teentaal.
4. Write Nagma in Teental and Adachautaal.
5. Theka and Tatkar of Ektaal in Ekgun, Dugun and Chougun 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.**

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**Music (Indian Classical Dance)****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-IV****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 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 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.

<b>THEORY</b> (Time duration 3 hours)	:	45 Marks
<b>PRACTICAL</b> (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, Kavita, Tihai and Nagma in Teentaal.
3. Write Tihai, Thaata, Paran, Chakardar Paran, Kavita 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. Thaata : 1
  5. Tihai : 1
  6. Kavita : 1
- II. Teentaal
  1. Tatkar with Ekgun, Dugun, Chaugun and Athgun layakaries.
  2. Kavita : 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 Mataka
- 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, 2019-2020****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 Paingting -- 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 :**

1. Kramrisch, Stella : Survey of Painting in the Deccan, Oriental Books Corporation, New Delhi, 1983.
2. Majumdar, R.C. (editor) : The History and Culture of Indian People, Vol. I, II and III (Sculpture and Painting Sections only) Bhartiya Vidya Bhawan Bombay, 1996, 1990, 1988.
3. Rowland, Benjamin : The Art and Architecture of India, Penguin Books, Great Britain, 1959.
4. Saraswati, S.K. : A Survey of Indian Sculpture, Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi, 1975.
5. Ray, N.R. : An Approach to Indian Art, Publication Bureau, Panjab University, Chandigarh, 1974.
6. Barrett, D. and Gray, B. : Painting of India, The World Publishing Co., Ohio, 1963.
7. Brown, Percy : Indian Painting under the Mughals, Cosmo Publications, New Delhi, 1981.
8. Aggarwala, V.S. : Heritage of Indian Art, Publications Division, Ministry of Information & Broadcasting, Govt. of India, New Delhi, 1976.
9. Aggarwala, V.S. : Indian Art (English), Varanasi, 1965.
10. Aggarwala, V.S. : Bhartiya Kala (Hindi), Prithvi Prakashan, 1977.
11. Read, Herbert : Meaning of Art, Faber & Faber, London, 1972.
12. Janson, H.W. : History of Art, Thames & Hudson, London, 2001.
13. Gardner, Helen : Art Through the Ages, Harcourt Brace & Co., U.S.A., 1991.
14. Gombrich, E.H. : The Story of Art, Phaidon Press Limited, New York, 1995.
15. Arnason, H.H. : A History of Modern Art, Thames & Hudson, London, 1988.

**Paper-B : PRACTICAL**

This paper consists of **three sections** :

	<i>Max. Marks</i>	<i>Max. Time</i>
1. Landscape Painting (on the spot)	30	5 hours
2. Life Sketching	30	5 hours
3. Poster & Book Cover Design or Clay Modelling	30	5 hours
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)

**Medium** : Pen & Ink, Poster Colours.

**Size** : 25 cms. × 20 cms.

**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).

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## FINE ARTS

### SEMESTER-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 :**

1. Kramrisch, Stella : Survey of Painting in the Deccan, Oriental Books Corporation, New Delhi, 1983.
2. Majumdar, R.C. (editor) : The History and Culture of Indian People, Vol. I, II and III (Sculpture and Painting Sections only) Bhartiya Vidya Bhawan Bombay, 1996, 1990, 1988.
3. Rowland, Benjamin : The Art and Architecture of India, Penguin Books, Great Britain, 1959.
4. Saraswati, S.K. : A Survey of Indian Sculpture, Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi, 1975.
5. Ray, N.R. : An Approach to Indian Art, Publication Bureau, Panjab University, Chandigarh, 1974.
6. Barrett, D. and Gray, B. : Painting of India, The World Publishing Co., Ohio, 1963.
7. Brown, Percy : Indian Painting under the Mughals, Cosmo Publications, New Delhi, 1981.
8. Aggarwala, V.S. : Heritage of Indian Art, Publications Division, Ministry of Information & Broadcasting, Govt. of India, New Delhi, 1976.
9. Aggarwala, V.S. : Indian Art (English), Varanasi, 1965.
10. Aggarwala, V.S. : Bhartiya Kala (Hindi), Prithvi Prakashan, 1977.
11. Read, Herbert : Meaning of Art, Faber & Faber, London, 1972.
12. Janson, H.W. : History of Art, Thames & Hudson, London, 2001.
13. Gardner, Helen : Art Through the Ages, Harcourt Brace & Co., U.S.A., 1991.
14. Gombrich, E.H. : The Story of Art, Phaidon Press Limited, New York, 1995.
15. Arnason, H.H. : A History of Modern Art, Thames & Hudson, London, 1988.

**Paper-B : PRACTICAL**

This paper consists of **three sections** :

	<i>Max. Marks</i>	<i>Max. Time</i>
1. Landscape Painting (on the spot)	30	5 hours
2. Life Sketching	30	5 hours
3. Poster & Book Cover Design or Clay Modelling	30	5 hours

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)

**Medium** : Pen & Ink, Poster Colours.

**Size** : 25 cms. × 20 cms.

**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).

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**HISTORY OF ART****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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. 9<sup>th</sup> century to ca. 1800 A.D.) AND SCULPTURE (from ca. 4<sup>th</sup> century A.D. to ca. 6<sup>th</sup> 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 :**

1. Kramrisch, Stella : *Survey of Painting in the Deccan*, Oriental Books Corporation, New Delhi, 1983.
2. Majumdar, R.C. (editor) : *The History and Culture of Indian People, Vols. I, II and III* (Sculpture and Painting Sections only) Bhartiya Vidya Bhawan Bombay, 1996, 1990, 1988.
3. Goswamy, B.N. & E. Fischer : *Pahari Masters : Court Painters of Northern India*, Museum Reitberg, Zurich Switzerland, 1992.
4. Khandalvala, Karl : *Pahari Miniature Painting*, The New Book Co. Pvt. Ltd., Bombay, 1958.
5. Rowland, Benjamin : *The Art and Architecture of India*, Penguin Books, Great Britain, 1959.
6. Saraswati, S.K. : *A Survey of Indian Sculpture*, Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi, 1975.
7. Barrett, D. and Gray, B. : *Painting of India*, The World Publishing Co., Ohio, 1963.
8. Brown, Percy : *Indian Painting under the Mughals*, Cosmo Publications, New Delhi, 1981.
9. Aggarwala, V.S. : *Heritage of Indian Art*, Publications Division, Ministry of Information & Broadcasting, Govt. of India, New Delhi, 1976.
10. Aggarwala, V.S. : *Indian Art* (English), Varanasi, 1965.
11. Aggarwala, V.S. : *Bhartiya Kala* (Hindi), Prithvi Prakashan, 1977.

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**HISTORY OF ART****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020  
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:**

- (a) Neo-Classicism and Romanticism–David, Ingres, John Constable, W. Turner.
- (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 :**

1. Janson, H.W. : *History of Art*, Thames & Hudson, London, 2001.
2. Gardner, Helen : *Art Through the Ages*, Harcourt Brace & Co., U.S.A., 1991.
3. Gombrich, E.H. : *The Story of Art*, Phaidon Press Limited, New York, 1995.
4. Turner, Jane (ed.) : *The Dictionary of Art*, Macmillan Publishers Limited, New York, 1996.
5. Aggarwala, V.S. : *Heritage of Indian Art*, Publications Division, Ministry of Information & Broadcasting, Govt. of India, New Delhi, 1976.
6. Aggarwala, V.S. : *Indian Art* (English), Varanasi, 1965.
7. Aggarwala, V.S. : *Bhartiya Kala* (Hindi), Prithvi Prakashan, 1977.
8. Murray, Peter and Linda Murray : *A Dictionary of Art & Artists*, Penguin Reference Book, Great Britain, 1959.
9. Rowland Benjamin (Jr.) : *Art in East and West*, Beacon Press, Toronto, 1964.
10. Ray, Niharjanjan : *An Approach to Indian Art*, Publication Bureau, P.U., Chandigarh, 1974.
11. Majumdar, R.C. (editor) : *The History and Culture of Indian People*, Vol. I, II and III. (Sculpture and Painting sections only) Bhartiya Vidya Bhawan Bombay, 1996, 1990, 1988.

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**ANCIENT INDIAN HISTORY, CULTURE & ARCHAEOLOGY****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-III****Paper-III : HISTORY AND CULTURE OF INDIA FROM 320 A.D. TO 650 A.D.**

Max.Marks	: 100
Theory	: 90 Marks
InternalAssessment	: 10 Marks
Time	: 3Hour

**Objectives :**

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

**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 in class for better understanding by the students.

**INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :**

1. The paper-setter is required to set **9** questions in all. All questions shall carry equal marks.
2. 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.
3. 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.
4. 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.
5. 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 (5) in the question paper.**

**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 : Samudragupta: Chandergupta II and Kumargupta

**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.
2. The Pushyabhutis of Thanesar : Political and Cultural survey.

**Essential Readings :**

1. Agrawal, Ashvini : *Rise & Fall of the Imperial Guptas*, Motilal Banarsidass, Delhi, 1989.
2. Altekar, A.S. & Majumdar, R.C. : *The Vakataka-Gupta Age*, rpt., Motilal Banarsidass, Delhi, 2006.
3. Goyal, S.R., : *The Imperial Guptas: A Multidisciplinary Political Study*, Kusum-anjali Book World, Jodhpur, 2005
4. Majumdar, R.C. & Dasgupta, K.K. (Eds.) : *The Comprehensive History of India, Vol. III, Pt. 1*, People Publishing House, Delhi 1981, (Chapters Dealing with the Gupta and the Post Gupta History).

**Suggested Readings:**

1. Majumdar, R.C. : *Ancient India*, rpt., Manohar, Delhi, 2003.
2. Mookerji, R.K. : *The Gupta Empire*, Motilal Banarsidass, Delhi, 1989.
3. Thaplyal, K.K. : *The Imperial Guptas: A political History*, Aryan Books International, New Delhi, 2012
4. Tripathi, R.S. : *History of Ancient India*, rpt., Delhi, 1977.

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**ANCIENT INDIAN HISTORY, CULTURE & ARCHAEOLOGY****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-IV****Paper-IV : HISTORY AND CULTURE OF INDIA FROM 650 A.D. TO 1200 A.D.**

Max.Marks	: 100
Theory	: 90 Marks
InternalAssessment	: 10 Marks
Time	: 3Hours

**Objectives :**

The primary objective of this paper is to acquaint the students with the historical 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 taken up.

**Pedagogy of the Course Work :**

The students should be given an outline of the original sources which help to reconstruct the history of the period. Slides and transparencies should be used in the class room lectures to help the students to comprehend the developments in different fields.

**INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :**

1. The paper-setter is required to 9 questions in all. All questions shall carry equal marks.
2. 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.
3. 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 and Mahabalipuram.
  - (c) Important Centres of Education—Nalanda, Ujjain, Pushpagiri and Nagarjunakonda.
4. 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.
5. 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 (5) in the question paper.**

**UNIT-I :**

1. Pratiharas
2. Palas

**UNIT-II :**

1. Paramaras
2. Chahamanas

**UNIT-III :**

1. Gahadavalas
2. Chandellas

**UNIT-IV :**

1. Rashtrakutas
2. Cholas.

**Essential Readings :**

1. Altekar, A.S. : *Rastrakutas and Their Times*, 2<sup>nd</sup> ed. Oriental Book Agency, Poona, 1967.
2. Bhatia, Pratipal : *The Paramaras*, Munshiram Manoharlal, New Delhi, 1970.
3. Chakravarti, Ranbir : *Exploring Early India upto C. AD 1300*, Machmillan, 2010
4. Majumdar, R.C. : *Ancient India*, rpt., Manohar, Delhi, 2003
5. Majumdar, R.C. : *History & Culture of Indian People*, Vol. IV, *The Age of Imperial Kanauj*, Bhartiya Vidya Bhawan, Bombay, 1955 (Relevant Chapters) Vol. V, *The Struggle for Empire*, Bombay 1957 (Relevant Chapters).

**Suggested Readings :**

1. Puri, B.N. : *The History of the Gurjara-Pratiharas*, Manohar, Delhi, 1986.
2. Ray, H.C. : *Dynastic History of India*, 2 Vols, Calcutta 1931,1936.
3. Sastri, K.A.N. : *A History of South India*, 4<sup>th</sup> ed. Oxford University Press, Madras, 1976.
4. Tripathi, R.S. : *History of Kanauj to the Muslim Conquest*, 4<sup>th</sup> ed., Motilal Banarsidass, Delhi, 1989.

**DEFENCE & STRATEGIC STUDIES****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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**

M. Marks : 70

Time : 3 Hrs.

**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 Tarrain, 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.
6. Military Organization and Battle Techniques of Marathas under Shivaji.

**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 :**

1. Bajwa, F.S., The Military Systems of Sikhs, Motilal Banarsidas Delhi, 1964.
2. Dass, S.T., An Introduction to the Art of War, Sagar Publications, Delhi, 1970.
3. Erskin, Memories of Babur, Biblio Bazaar, 2012.
4. JFC, Fuller, Generalship of Alexander, The Great, Eyre and Spottiswoode, 1958.
5. Kangle, K.P., Kautilya's Arthshastra, Motilal Banarsidas Publishers Pvt. Ltd., Delhi, 1986.
6. Majumdar, B.K., Military Systems in Ancient India, Firma K.L. Mukopadhyay Publishers, Delhi, 1960.
7. Mallesan, Decisive Battle of India, Read Books Design, 2010.
8. Nath, Rajendra, Military Leadership in India, Vedic Period to Indo-Pak Wars, Lancers Books, California, 1990.
9. Sarkar, J.N., Military History of India, Orient Longmans, Virginia, 1960.
10. Sen., S.N., Military System of the Marathas, Orient Longmans, Michigan, 1958.
11. Sharma, Gautam, Indian Army through the Ages, Allied Publishers, University of Michigan, 1966.
12. Singh, Gurcharan, Battles of Panipat, Army Educational Stores, 1966.
13. William, Irvin, Army of the Indian Mughals, Low Price Publishers, 1994.

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**

**Marks : 10**

**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**

**Marks : 10**

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

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**DEFENCE & STRATEGIC STUDIES****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-IV****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 Carthaginians 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**

6. Industrial revolution and its Impact on Weapons, Communications and Tactics.
7. Elements and Principles of Napoleonic Warfare.

**SECTION-IV**

8. Naval Warfare with particular reference to the Battle of Trafalgar, 1805.
9. American Civil War (1861-65) : Causes and Events.



**Books Recommended :**

1. Barrie and Rackett, The Ancient Art of War Vols. I & II., Barrie and Rockliff, 1957.
2. Bullock, H., Military History of the Western World, Vol. 1, Da Capo Press, 1978.
3. Fuller, JFC, Armament and History, Da Capo Press, New York, 1998.
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.
6. Fuller, JFC, Military History of the Western World, Da Capo Press, New York, 1987.
7. Montgomery, F.M., A History of Warfare, World Publication Co. The University of Michigan, 1968.
8. Montress, L., War through the Ages, Harper & Brothers, Indiana University, New York, 1987.

**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 Compass 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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## HISTORY

### B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020

#### SEMESTER-III

#### INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

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 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.
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.  
**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.
2. Administrative Reforms : Reforms of Cornwallis, William Bentinck and Dalhousie.
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.
6. Depressed Classes Movement : Contribution of Jyotiba Phule, Dr.B.R. Ambedkar and Mahatma Gandhi.

**Unit-III**

7. Growth of Political Consciousness : Foundation and growth of the Indian National Congress from 1885-1905; Growth of Nationalism 1905-1919.
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**

10. Towards Partition and Independence : Quit India Movement; British proposals for independence; Indian Independence Act of 1947.
11. Significant Developments after Independence, 1947- 64 : Making of the constitution; integration of princely states; the reorganisation of states.
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 :**

1. Abdul Kalam Azad, *Azadi Ki Kahani* (Hindi Medium), Delhi : Orient Black Swan, 2007.
2. Bandyopadhyay, Sekhar, *From Plassey to Partition : A History of Modern India*, Delhi : Orient Black Swan, 2007 (Also available in Hindi Medium).
3. Chandra, Bipan, *Communalism in Modern India*, Delhi : Vikas Publishers, 1987.
4. Chandra, Bipan *et al.*, *India's Struggle for Independence, 1875-1947*, Delhi : Viking/Penguin Books, 1989.
5. Chandra, Bipan, *Aitihāsik Sangharsh – EPIC Struggle* (Hindi Medium), Delhi : Orient Black Swan, 2007.
6. Nanda, B.R., *Making of a Nation : India's Road to Independence*, New Delhi : Harper-Collins, 1998.
7. Gopal, S, (Pbi)

**HISTORY****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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) 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.**
- (iii) One question from Unit IV shall be set on the map.

**Explanation:**

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

- 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 15<sup>th</sup> to the mid 19<sup>th</sup> 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.
3. Guru Hargobind's new policy and its justification; martyrdom of Guru Tegh Bahadur and its significance.

**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 18<sup>th</sup> 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 19<sup>th</sup> 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, Goindwal, Anandpur Sahib, Chamkaur Sahib, Kiratpur, Kartarpur, Paonta Sahib, Sirhind, Muksar, 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 :**

1. Banerjee, I.B., *Evolution of the Khalsa*, 2 Vols., Calcutta : A Mukherjee & Co., 1979 (2<sup>nd</sup> edn.).
2. Banga, Indu (ed.), *Five Punjabi Centuries : Polity, Economy, Society and Culture c. 1500-1900*, New Delhi : Manohar, 1997.
3. Fauja Singh, *State and Society under Maharaja Ranjit Singh*, Master Publishers, Delhi.
4. Grewal, J.S., *The Sikhs of the Punjab : The New Cambridge History of India*, New Delhi : Cambridge University Press, 1999 (2nd edn.).
5. Khushwant Singh, *A History of the Sikhs* Volume I and II
6. McLeod, W.H., *Sikhs and Sikhism*, New Delhi : Oxford University Press, 2000.
7. Sinha, N.K., *Rise of the Sikh Power*, Calcutta : A Mukherjee & Co., 1973
8. Teja Singh and Ganda Singh, *A Short History of the Sikhs, 1469-1765*, Vol.I, Patiala : Punjabi University, 1983.

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## POLITICAL SCIENCE

### B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020

#### 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).
3. Directive Principles of State Policy (Art 36- Art 51)- Liberal, Socialist, International, Gandhian- Meaning, Explanation, Sanctions, 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 :**

1. Rajiv Sikri, *Challenge and Strategy : Rethinking India's Foreign Policy*, Sage Publications, New Delhi, 2009.
2. S.D. Muni, *India's Foreign Policy : The Democracy Dimension*, Foundation Books, Cambridge University Press India, New Delhi, 2009.
3. Sumit Ganguly (ed.), *India's Foreign Policy : Retrospect and Prospect*, OUP, 2009.
4. F.R. Frankel, *India's Political Economy 1947-2004 : The Gradual Revolution*, Oxford, Oxford University Press, 2005.
5. C. Raja Mohan, *Crossing the Rubicon : The Shaping of India's New Foreign Policy*, Palgrave Macmillan, 2004.
6. Zoya Hasan, E. Sridharan and R. Sudarshan (ed.), *India's Living Constitution : Ideas, Practices, Controversies*, Permanent Black, New Delhi, 2004.
7. Zoya Hasan, *Parties and Party Politics in India*, Oxford University Press, New Delhi, 2002.
8. Niraja Gopal Jayal (ed.), *Democracy in India*, Oxford University Press, Delhi, 2001.
9. A.G. Noorani, *Constitutional Questions in India*, Oxford University Press, 2000.
10. G. Austin, *Working a Democratic Constitution : A History of the Indian Experience*, New Delhi, Oxford University Press, 1999.
11. Partha Chatterjee (ed.), *State and Politics in India*, Oxford University Press, 1999.
12. M.V. Pylee, *An Introduction to the Constitution of India*, New Delhi, Vikas, 1998.
13. C.P. Bhambri, *The Indian State Fifty Years*, New Delhi, Shipra, 1997.
14. P. Brass, *Ethnic Groups and the State*, London, Croom Helm, 1995.
15. D.D. Basu, *An Introduction to the Constitution of India*, New Delhi, Prentice Hall, 1994.
16. P. Brass, *Politics of India Since Independence*, Hyderabad, Orient Longman, 1990.
17. R. Kothari, *State Against Democracy : In Search of Human Governance*, Delhi, Ajanta, 1988.
18. P. Brass, *Caste, Faction and Party in Indian Politics, Vol. II : Election Studies*, Delhi, Chanakya Publications, 1985.
19. B.L. Fadia, *State Politics in India, Vol. II*, New Delhi, Radiant Publishers, 1984.
20. M.V. Pylee, *Constitutional Government in India*, Bombay, Asia Publishing House, 1977.
21. P. Brass, *Language, Religion and Politics in North India*, London, Cambridge University Press, 1974.
22. R. Kothari, *Politics in India*, New Delhi, Orient Longman, 1970.
23. R. Kothari, *Party System and Election Studies*, Bombay, Asia Publishing House, 1967.
24. Iqbal Narain (ed.), *State Politics in India*, Meerut, Meenakshi Parkashan, 1967.
25. S.P. Verma, and C.P. Bhambri (ed.), *Election and Politics Consciousness in India*, Meerut, Meenakshi Parkashan, 1967.
26. G. Austin, *The Indian Constitution : Corner Stone of a Nation*, Oxford, Oxford University Press, 1966.

**POLITICAL SCIENCE****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-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**

1. Nature of party system in India : A critical evaluation.
2. National Political Parties [Indian National Congress, BJP, CPI, CPI(M), BSP] : Ideology, Policy and Programmes
3. Regional Political Parties (SAD, DMK, AIDMK) : 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
3. Voting Behaviour in India – its Determinants.



**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.
2. Non-alignment : Meaning and Nature.
3. Non-alignment Movement- its Relevance.

**Books Recommended :**

1. Rajiv Sikri, *Challenge and Strategy : Rethinking India's Foreign Policy*, Sage Publications, New Delhi, 2009.
2. S.D. Muni, *India's Foreign Policy : The Democracy Dimension*, Foundation Books, Cambridge University Press India, New Delhi, 2009.
3. Sumit Ganguly (ed.), *India's Foreign Policy : Retrospect and Prospect*, OUP, 2009.
4. F.R. Frankel, *India's Political Economy 1947-2004 : The Gradual Revolution*, Oxford, Oxford University Press, 2005.
5. C. Raja Mohan, *Crossing the Rubicon : The Shaping of India's New Foreign Policy*, Palgrave Macmillan, 2004.
6. Zoya Hasan, E. Sridharan and R. Sudarshan (ed.), *India's Living Constitution : Ideas, Practices, Controversies*, Permanent Black, New Delhi, 2004.
7. Zoya Hasan, *Parties and Party Politics in India*, Oxford University Press, New Delhi, 2002.
8. Niraja Gopal Jayal (ed.), *Democracy in India*, Oxford University Press, Delhi, 2001.
9. A.G. Noorani, *Constitutional Questions in India*, Oxford University Press, 2000.
10. G. Austin, *Working a Democratic Constitution : A History of the Indian Experience*, New Delhi, Oxford University Press, 1999.
11. Partha Chatterjee (ed.), *State and Politics in India*, Oxford University Press, 1999.
12. M.V. Pylee, *An Introduction to the Constitution of India*, New Delhi, Vikas, 1998.
13. C.P. Bhambri, *The Indian State Fifty Years*, New Delhi, Shipra, 1997.
14. P. Brass, *Ethnic Groups and the State*, London, Croom Helm, 1995.
15. D.D. Basu, *An Introduction to the Constitution of India*, New Delhi, Prentice Hall, 1994.
16. P. Brass, *Politics of India Since Independence*, Hyderabad, Orient Longman, 1990.
17. R. Kothari, *State Against Democracy : In Search of Human Governance*, Delhi, Ajanta, 1988.
18. P. Brass, *Caste, Faction and Party in Indian Politics, Vol. II : Election Studies*, Delhi, Chanakya Publications, 1985.
19. B.L. Fadia, *State Politics in India, Vol. II*, New Delhi, Radiant Publishers, 1984.

20. M.V. Pylee, *Constitutional Government in India*, Bombay, Asia Publishing House, 1977.
21. P. Brass, *Language, Religion and Politics in North India*, London, Cambridge University Press, 1974.
22. R. Kothari, *Politics in India*, New Delhi, Orient Longman, 1970.
23. R. Kothari, *Party System and Election Studies*, Bombay, Asia Publishing House, 1967.
24. Iqbal Narain (ed.), *State Politics in India*, Meerut, Meenakshi Parkashan, 1967.
25. S.P. Verma, and C.P. Bhambri (ed.), *Election and Politics Consciousness in India*, Meerut, Meenakshi Parkashan, 1967.
26. G. Austin, *The Indian Constitution : Corner Stone of a Nation*, Oxford, Oxford University Press, 1966.

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## ECONOMICS

**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**

**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**

*Introduction to Public Finance :* Nature, Scope and its Importance.

*Public Expenditure:* Canons, Principle of Maximum Social Advantage, Wagner's Law, Wiseman Peacock Hypothesis. Causes for the Recent Growth of Public Expenditure in India.

*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**

*Pure Theory of International Trade* : Classical and Heckscher - Ohlin Theories, The Theory of Reciprocal Demand.

*Terms of Trade* : Concept and Types

*Commercial Policy* : Free Trade Vs. Protection, Regional Blocks: ASEAN, SAFTA Problems and prospects. Impact of W.T.O. on Less Developed Countries.

**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

*Exchange Rate* : Meaning and its Determination, Fixed Vs. Flexible Rate of Exchange and Purchasing Power Parity Theory.

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

**Recommended Readings :**

1. Musgrave, A.R. & Musgrave, P.B. : *Public Finance in Theory and Practice*, McGraw Hills, (2011) International Students' Edition.
2. Kindleberger, C.P. (1987) : *International Economics*, Richard Irwin Homewood, Illinois, Indian Edition
3. Sharma, O.P. : *Sarvjanik Vit*, Punjabi University, Patiala. (latest edition)
4. Ghuman, Ranjit Singh : *Antar-Rashtriya Arth Vigyan*, Punjabi University, Patiala. (latest edition)
5. Soderston B.O. (1994) : *International Economics*, McMillan Press Ltd.

**Supplementary Reading :**

1. Bhatia, H.L. : *Public Finance*, Vikas Publishing House Pvt. Ltd. (2008)
2. Dalton, H. : *Principles of Public Finance*, Routledge and Kegan Paul, London. (1978)
3. Tyagi, B.P. : *Public Finance*, Jai Prakash Math & Co, Meerut. (1994)

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**ECONOMICS****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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 phenomenon. 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  $3 \cdot 3$ ), Solution of Equations (upto 3) by Matrix Methods and Cramer'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.  
*Time Series Analysis* : Components of Time Series, Determination of Trend, Least Square and Moving Average Method.

**Books Recommended**

1. Archibald, G. C. and Lipsey, R. G. (1977) : *An Introduction to a Mathematical Treatment of Economics*, English Language Book Society, Weidenfeld and Nicolson.
2. Gupta, S.C. (1992) : *Fundamentals of Statics*, Mumbai, Himalaya Publishing House.
3. Kandoi, Balwant (2011) : *Mathematics for Business and Economics with Applications*, in 2 Vol., Himalaya, Mumbai.
4. Sanchati, D. C. & Kapoor, V. K. (1987) : *Business Mathematics*, Sultan Chand & Sons, New Delhi.
5. Yamane, Taro (1972) : *Economists*, Prentice Hall, New Delhi.

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**SOCIOLOGY****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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.  $9 \times 2 = 18$  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 :**

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**

*Social Structure* : Meaning, Characteristics, Elements – Status, Role, Power and Prestige. Norms and Values.

**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**

*Processes of Social Change* : Sanskritization, Westernization, Modernization and Secularization, Globalization and its impact on Society.

**Essential Readings :**

1. Bierstedt, Robert (1970) : *Social Order*, New York : McGraw Hill.
2. Haferkand, H. and Smelser, N.J. (1992) : *Social Change and Modernity*, Berkeley : University of California Press.
3. Macionis, John, J. (2005) : *Society : The Basics*, New York : Prentice Hall.
4. Madhurima (2016) : *Readings in Sociology – Semester-II*, Jalandhar : New Academic Publishing House (All Mediums).
5. Moore, Wilbert (2004) : *Social Change*, New Delhi, Prentice Hall.
6. Singh, Yogendra (1993) : *Social Change in India*, New Delhi : Haranand Publications.
7. Srinivas, M.N. (1963) : *Social Change in Modern India*, Berkeley : University of California Press.

**Further Readings :**

1. Radcliffe-Brown, A.R. (1979) : *Structure and Function in Primitive Society*, London : Routledge and Kegan paul.
2. Haralambos, M. (1998) : *Sociology : Themes and Perspectives*, New Delhi : Oxford University Press.
3. Talcott, Parsons (1959) : *Social System*, London : Tavistock Publications.
4. Singh, Yogendra (1996) : "Sociology and the Emerging Challenge of Change", *Sociological Bulletin*, Volume 45, No. 1, March, Page 1-14.
5. Singer, M. (1972) : *When a Great Tradition Modernizes : An Anthropological Approach to Indian Civilization*, New York : Praeger Publishers.
6. Yogendra Singh, (2008) : *Social Change in India*, New Delhi, Har Anand Publications
7. Srinivas, M.N., (2011) : *Social Change in Modern India*, Hyderabad, Orient Black Swan
8. Kuppu (Swamy, B, 2001) : *Social Change in India*, Delhi, Konark

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**SOCIOLOGY****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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 :**

1. Christensen, H.(ed.) (1964) : *Handbook of Marriage & Family*, New Delhi: Allyn and Bacon.
2. Fox, Robin (1967) : *Kinship and Marriage : An Anthropological Perspective;* Baltimore : Penguin Books.
3. Giddens, Anthony (2013) : *Sociology : A Text Book for the Nineties*, London : Polity.
4. Haralambos, M. (1998) : *Sociology : Themes and Perspectives*, New Delhi : Oxford University Press.
5. Johnson, Harry, M. (1998) : *Sociology : A Systematic Introduction*, Delhi : Allied Publishers.
6. Macionis, John J. (2005) : *Society : The Basics*, New York : Prentice Hall.
7. Giddens, Anthony & Sutton W. Philip (2010) : *Sociology : Introductory Readings*, U.K.: Polity Press.
8. Schacfer, Richard, T.(2010) : *Sociology : A Brief Introductions*, N.Y.: Tata McGraw Hill.

**Further Readings :**

1. K.M. Kapadia (1996) : *Marriage & Family in India*, Delhi, Oxford University Press
2. Bronislaw Malinowski (1944) : *A Scientific Theory of Culture & other Essay (ed.)* Huntington Cairns, C Hapel Hall, The University of North Caroliva Press.
3. Particia Uberoi (1997) : *Family, Kinship & Marriage in India*, New Delhi, Oxford University Press
4. Max Weber (1968) : *The Protestant Ethic and the Spirit of Capitalism-R.H. Tawney (ed.)* Unvwin University, Book London.
5. Radcliff Brown, A.R. (1979) : *Structure and Functions in Primitive Society*, London: Routledge and Kegan Paul.
6. Madan, T.N.(2002) : *Religion in India*, Delhi-Oxfored UniversityPress,Atal,yogesh,2012,Sociology,Delhi ;Pearson
7. Marlom bos & Holborn,(2016) : *Cociology Themes and perspectives,London, Collins*
8. Madan, T.N.,(2001) : *Family and Kinship*,New Delhi, Oxford University Press
9. Froer, Peggy,(2010) : *Religious Divisions and Social Conflict*,New Delhi, Esha Beteille

## PUBLIC ADMINISTRATION

### B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020

#### 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 :**

Davar , R.S.(1976). *Personnel Management and Industrial Relations* . NewDelhi : Vikas Publishers.  
Goel, S.L.(2008).*Public Personnel Administration* . New Delhi : Sterling Publishers.  
Stahl,O.G.(1975).*Public Personnel Administration*. New Delhi : Oxford and IBH Publications.  
Tyagi, A.R.(2001).*Public Administration: Principles and Practice* .Delhi: Atma Ram and Sons Publishers.

**Further Readings :**

Government of India, Administrative Reforms Commission(1967). *Report on Personnel Administration*.  
New Delhi : Manager of Publications.

Government of India, 2<sup>nd</sup> Administrative Reforms Commission.(2010) *10<sup>th</sup> Report :Refurbishing of Personal Administration – Scaling New Heights*. New Delhi : Manager of Publications.

Indian Institute of Public Administration(1970). *Personnel Administration*.New Delhi : IIPA.

Paul Pigors and C.A. Myers(1973). *Personnel Administration : A Point of View and Method*.

New York:McGraw Hill.

Sinha , V.M. (1986).*Personnel Administration*. Jaipur : RBSA.

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**PUBLIC ADMINISTRATION**  
**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**  
**SEMESTER-IV**

**PAPER : FINANCIAL ADMINISTRATION (WITH SPECIAL REFERENCE TO INDIA)**

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

**Objectives of the Paper:**

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.  
 Concepts: Deficit Financing, Fiscal Deficit, Public Debt and Public Expenditure.

**Unit-IV**

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

**Essential Readings**

Goel,S.L.,(1993).*Financial Management and Administration*. New Delhi: Sterling Publication.

Lall,G.S..*Financial Administration in India* .Delhi: H.P.J.Kapoor, 4<sup>th</sup> ed.

Mookerjee ,S.S. *Indian Public Finance and Financial Administration* . New Delhi.

S.Sahib and S.Swinder.(2016)*Public Personnel and Financial Administration* Jalandhar: New Academic Publishers Co.

Thavaraj,M.J.K.(1978).*Financial Administration of India* . New Delhi: Sultan Chand Publications.

**Further Readings**

Government of India, 2<sup>nd</sup> ARC .14<sup>th</sup> Report-*Strengthening Financial Management System*.

Government of India,Administrative Reforms Commission.(1967). *Report on Financial Administration*. New Delhi : Manager of Publications.

Government of India,Administrative Reforms Commission. *Report on Financial Accounts and Audit* (1967). New Delhi.

Government of India,Administrative Reforms Commission(1967).*Report on Centre-State Relations*. New Delhi : Manager of Publications.

Mahajan S. and Mahajan,A.(2014). *Financial Administration in India*. Delhi : PHI Learning Private Limited.  
Sinha, R.K.(1986). *Centre-State Financial Relations in India: Various Aspects, Irritants, Framework for Action* .New Delhi: Deep & Deep Publications.

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## PHILOSOPHY

### B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020

#### 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

- Salient Features of Indian Ethics with reference to Purusartha : Yuga Dharma and Sanatan Dharma.
- Varna Vyastha and Ashrama Dharma : A Contemporary Analysis.
- Concept of Sreyas and Preyas.

#### Unit-II

- Buddhist Ethics : Four Noble Truths, Eight Noble Paths, Ahimsa and Karma Bhava Chakra, Sila.
- Jaina Ethics : Triratnas.
- Sikh Ethics : Hukum, Nirbhau, Nirvair, Parupkar, Sewa and Sahaj.

**Unit-III**

- Gita : Anasakta Karma, Lok Samgraha, Sva-Dharma
- Gandhi : Ahimsa, Satyagraha and Antyodaya.

**Unit-IV**

- Yoga and Stress Management .
- Yoga : Yama, Niyama, Asana, Pranayama, Pratyahara, Dharna, Dhyana, Samadhi.

**Essential Readings :**

Maitra S. K. (1956) The Ethics of the Hindus, New Delhi: Asian Publication Services

Singh Avtar (1970) Ethics of the Sikhs, Patiala: Punjabi University.

Sharma I.C. (1965) Ethical Philosophies of India London: George Allen and Unwin

Vivekananda (1992) Raja Yoga, Calcutta: Advaita Ashram

**Suggested Readings :**

Dasgupta Surama (1994) Development of Moral Philosophy in India, New Delhi : Munshi Ram Manoharlal Pub.,

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**PHILOSOPHY****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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**

- The Nature of Ethics : Virtues and Goodness, its concerns, Relation of Ethics with Aesthetics, Psychology and Religion.
- The notion of Truth, Beauty & Goodness, Reflective Customary Morality.
- Object of Moral Judgement : Actions, Intentions, Situations and Character.

**Unit-II**

- Virtue Ethics : Aristotle.
- De-Ontological Ethics: Kant's Categorical Imperativeion.

**Unit-III**

- Teleological Ethics :
  - (i) Hedonism
  - (ii) Utilitarianism :
    - (a) Mill
    - (b) Bentham

**Unit-IV**

- Moral Rights of Foetus and Female Foeticide.
- Sexual harassment and Gender Justice.
- Environmental Ethics : Pollution, Land Degradation and Organic Farming and Global Warming.

**Essential Readings :**

1. Aristotle (2001) Nicomachean Ethics, Dordrecht : D. Reidel, Penguin Harmondsworth
2. Lillie William (1957) An Introduction to Ethics : London, Matheun
3. Singer Peter (1995) Practical Ethics (Second Edition), Cambridge University Press
4. Verma Ved Parkash (1987), Neeti Shastra (in Hindi), New Delhi : Allied Publishers

**Suggested Readings :**

1. Hospers John, Human Conduct: An introduction to the Problems of Ethics
2. Hursthome Rosaline (1061), Virtue Ethics, Harcourt: New York.
3. Frankena W., (1994) Ethics, New Delhi: Englewood Cliffs, Prentice Hall, India
4. Macbott J.D. (1966) An Introduction to Ethics Hutchinson: London

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**PSYCHOLOGY****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-III****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 :**

1. Baron, R.A. (2003): Psychology. New Delhi : Pearson Education.
  2. Ciccarelli, D. (2008): Introduction to Psychology. Delhi: Pearson.
  3. Das, J.P. (1998): The Working Mind: An Introduction to Psychology. New Delhi: Sage.
  4. Feldman, R.S. (1998) : Understanding Psychology. New Delhi : Tata McGraw Hill.
  5. Garrett, H.E. (1966) : Statistics in Psychology and Education. New Delhi : Vakils, Feffer and Simons.
  6. Garrett, H.E. (1966) : Statistics in Psychology and Education. New Delhi : Vakils, Feffer and Simons.
  7. Guilford, J.P. and Fruchter, B. (1981) : Fundamental Statistics in Psychology and Education. Singapore: McGraw Hill.
  8. Kerlinger, F. N. (1964) : Foundations of Behavioural Research. New York: Rinehart and Winston.
  9. Morgan, C.T., King, R.A., Weisz, J.R. and Schopler, J. (1987) : Introduction to Psychology. Singapore: McGraw Hill.
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## 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  
Problem Solving: Nature , Stages 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**

Max Marks : 20  
Time : 3 Hrs.

*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:**

1. Baron, R.A. (2003): *Psychology*, New Delhi : Pearson Education.
2. Ciccarelli, D. (2008): *Introduction to Psychology*, Delhi: Pearson.
3. Das , J.P. (1998):*The Working Mind: An Introduction to Psychology*, New Delhi: Sage.
4. Feldman, R.S. (1998) :*Understanding Psychology*, New Delhi: Tata McGraw Hill.
5. Garrett, H.E. (1966): *Statistics in Psychology and Education*, New Delhi Vakils, Feffer And Simons.
6. Guilford, J.P., and Fruchter, B. (1981):*Fundamental Statistics in Psychology and Education* Singapore: McGraw Hill.
7. Jain, S. (2000) : *Introduction to Psychology*, New Delhi: Kalyani
8. Kerlinger, F.N. (1964): *Foundations of Behavioural Research*, New York Holy, Rinehart and Wintson
9. Morgan, C.T., King, R.A., Weisz, J.R. and Schopler, J. (1987): *Introduction to Psychology*, Singapore: McGraw Hill

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**GEOGRAPHY**  
**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**  
**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:**

1. Deshpande, C.D. : *India: A Regional Interpretation*, Indian Council of Social Science Research, New Delhi, 1992.
2. Johnson, B.L.C. : *India: Resources and Development*, Arnold Heinemann, London, 1980.
3. Johnson, B.L.C. : *South Asia*, Heinemann, London, 1981.
4. Khullar, D.R. : *India: A Comprehensive Geography*, Kalyani Publishers, New Delhi, 2011.
5. Majid Hussain : *Geography of India*, Tata McGraw-Hill, Delhi, 2013.
6. Spate, O.H.K. and ATA : *India & Pakistan: Land, People and Economy*, Methuen, London, Learmonth, 1967.
7. Tiwari, R.C : *Geography of India*, Pravalika Publications, Allahabad, 2013.

**Further Readings :**

1. Singh, Gopal : *A Geography of India*, Atma Ram & Sons, New Delhi, 1995
2. Singh, Jagdish : *India: A Comprehensive Systematic Geography*, Gyanodaya Prakashan, Gorakhpur, 2<sup>nd</sup> Edition, 2003.
3. Singh, R.L. : *India: A Regional Geography (Ed.)*, National Geographical Society of India, Varanasi, 1971.
4. Singh, Savindra : *Environmental Geography*, Pravalika Publications, Allahabad, 2014
5. Sharma, T.C. and O. : *Economic and Commercial Geography of India*, Vikas Publishing, House, New Delhi, 2005.
6. Tirtha, Ranjit & Gopal Krishan : *Emerging India*, Conpub Ann Arbour Publishers, Michigan, 1992.

**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:**

1. Khullar, D.R. : *Essentials of Practical Geography, New Academic Publishig Co., Jalandhar, 2009.*
2. Robinson, A.H. : *Elements of Cartography, 6<sup>th</sup> Edition, John Wiley, New York, 2009.*
3. Sarkar, Asish : *Practical Geography: A Systematic Approach, 2<sup>nd</sup> Edition, Orient BlackSwan, Hyderabad, 2011.*
4. Singh, Gopal : *Mapwork & Practical Geography, Vikas Publishing House Pvt. Ltd., New Delhi, 2009.*
5. Singh, R.L. & P.B. : *Map Work and Practical Geography, Central Book Depot, Raghunandan Allahabad, 2007.*

**Further Readings:**

1. Birch, T.W. : *Maps: Topographical & Statistical, Clarendon Press, Oxford, 1949.*
2. Garnett, A. : *Geographical Interpretation of Topographical Maps, George Harrap & Co., London, 1953.*
3. Monkhouse, F.J. : *Maps and Diagrams, Methuen & Co., London, 1994 reprint.*
4. Rather, G.M. : *A Text of Practical Geography, Arina Publishers, New Delhi, 2011*

**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.

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**GEOGRAPHY**  
**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**  
**SEMESTER-IV**

**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 : *Geography of Punjab, 4<sup>th</sup> Edition*, Kalyani Publishers, Ludhaina 2009.
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 : *Regional Disparities in Level of Socio-Economic Development in Punjab*, Vishal Publications, Kurukshetra, 1984.
4. Gupta S.P. : *The Punjab: An Overview*, ESS PEE Publications, Chandigarh, 2004.
5. Kahlon, Simrit : *Punjab: regional reflections*, Man and Development, 29 (2), 2007.
6. Singh Pritam : *Punjab Economy: The Emerging Patterns*, Enkay Publishers, New Delhi, 1995.
7. Singh, R.L. : *India: A Regional Geography (Ed)*, National Geographical Society of India, 1990, Reprint.
8. Spate, O.H.K. & Learmonth A.T.A. : *India and Pakistan: A General and Regional Geography*, Methuen, London, 1967

#### 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:

1. Bhatta, Basudeb : *Remote Sensing and GIS*, Oxford, 2<sup>nd</sup> Edition, New Delhi, 2011
2. Guha, P.K. : *Remote Sensing For The Beginner*, East-West Press, 3<sup>rd</sup> Edition, New Delhi, 2013..
3. Khullar, D.R. : *Essentials of Practical Geography*, New Academic Publishing Co., Jalandhar, 2009.
4. Robinson, A.H. : *Elements of Cartography, 6<sup>th</sup> Edition*, John Wiley, New York, 2009.
5. Sarkar, Asish : *Practical Geography: A Systematic Approach*, 2<sup>nd</sup> Edition, Orient BlackSwan, Hyderabad, 2011.
6. Singh, Gopal : *Mapwork & Practical Geography*, Vikas Publishing House Pvt. Ltd., New Delhi, 2009.
7. Singh, R.L. & Singh, P.B. : *Map Work and Practical Geography*, Central Book Depot, Raghunandan Allahabad, 2007.

**Further Readings:**

1. Birch, T.W. : *Maps: Topographical & Statistical*, Clarendon Press, Oxford, 1949.
2. Garnett, A. : *Geographical Interpretation of Topographical Maps*, George Harrap & Co., London, 1953.
3. Joseph, George : *Fundamentals of Remote Sensing*, Universities Press (India) Private Limited, 2<sup>nd</sup> Edition, Hyderabad, 2005
4. Monkhouse, F.J. : *Maps and Diagrams*, Methuen & Co., London, 1994 reprint.
5. Panda, B.C. : *Remote Sensing: Principles and Applications*, Viva Books, New Delhi, 2008
6. Rather, G.M. : *A Text of Practical Geography*, Arina Publishers, New Delhi, 2011

**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.

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**GANDHIAN STUDIES****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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
1. 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 :**

1. Bandyopadhyaya, J. : *Social and Political Thought of Mahatma Gandhi*, (Bombay : Allied Publisher) 1969.
2. Bharathi, K.S. : *Social and Political Thought of Mahatma Gandhi* ( New Delhi : Concept) 1995.
3. Gandhi, M.K. : *An Autobiography or The Story of My Experiments with Truth* (Ahmedabad: Navjivan Publishing House), 2001
4. Gandhi, M.K. : *Satyagraha in South Africa* (Ahmedabad: Navajivan Publishing House), 1992
5. Gandhi, M.K. : *Hind Swaraj* (Ahmedabad: Navajivan Publishing House), 1999
6. Mishra, Anil Dutta : *Reading Gandhi*, (New Delhi : Pearson), 2012
7. Varma, V.P. : *Political Philosophy of Mahatma Gandhi & Sarvodaya*, Agra (Laxmi Narain Aggarwal), 1998.

**Further Readings :**

- 1 Bandyopadhyaya, Jayantaja : *Social and Political Thought of Mahatma Gandhi*, (Allied Publishers, Bombay), 1969.
- 2 Nanda, B.R. : *Making of a Nation : India's Road to Independence* (New Delhi: Harper Collins), 1998.
3. Suda, J.P. : *Main Currents of Social and Political Thought of Modern India*, Vol. II, Meerut (K. Nath & Co.) 1973.
4. Unnithan, T.K.N. : *Gandhi and Social Change*, New Delhi ( Arnold Heinemann India), 1973.

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**GANDHIAN STUDIES****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-IV****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**

1. Bhattacharyya, Buddhadeva : *Evolution of Political Thought of Gandhi*, Calcutta: Calcutta Book House, 1969.
2. Brown, Judith, M. : *Gandhi's Rise to Power: Indian Politics 1915-1922* (London: Cambridge University Press), 1972.
3. Dhawan, G.N. : *Political Philosophy of Mahatma Gandhi*, Ahmedabad (Navajivan Publishing House) 1990, 4<sup>th</sup> Edition.
4. Gandhi, M.K. : *An Autobiography or The Story of My Experiments with Truth* (Ahmedabad: Navajivan Publishing House), 2001
5. Gandhi, M.K. : *Satyagraha in South Africa* (Ahmedabad: Navajivan Publishing House), 1992
6. Gandhi, M.K. : *Hind Swaraj* (Ahmedabad: Navajivan Publishing House), 1999
7. Mishra, Anil Dutta : *Reading Gandhi*, New Delhi (Dorling Kindersley, Pearson), 2012
8. Varma, V.P. : *The Political Philosophy of Mahatma Gandhi & Sarvodaya*, Agra (Laxmi Narain Aggarwal), 1981.

**Further Readings:**

- 1 Bandyopadhyaya, Jayantaja : *Social and Political Thought of Mahatma Gandhi*, (Allied Publishers, Bombay), 1969.
- 2 Iyer, Raghaavan N. : *The Moral & Political Thought of Mahatma Gandhi*, London, Oxford University Press, 1973.
3. Mishra, Anil Dutta (ed.) : *Perspectives on Human Rights* (New Delhi, Radha Publications )2002.
4. Nanda, B.R. : *Making of a Nation : India's Road to Independence* (New Delhi: Harper Collins), 1998.

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**JOURNALISM & MASS COMMUNICATION****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-III****PRINT JOURNALISM****Max. Marks: 100**

Theory	70 marks
Internal Assessment	10 marks
Time	3 Hours
Practical	20 marks

**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**  
: 20 Marks

**Books Recommended :****ESSENTIAL READING**

- 1 Mencher, Melvin , (1989), *Basic News Writing: W.M.C. Brown Publishers, New York*
- 2 Metz, William, (1990), *News Writing: From Lead to 30. 3<sup>rd</sup> Edition, Prentice-Hall Inc., New Jersey*
- 3 Rivers, William. L , (1991), *Freelancer and Staff Writer: Newspaper Features and Magazine Articles, Wadsworth Publishing Co.*
- 4 Alexander Louis , (1987), *Beyond the Facts: A Guide to the Art of Feature Writing. Gulf Publishing Co.*
- 5 Garrison, B, (1999), *Profession of Feature Writing. New Jersey: Lawrence Erlbaum Assoc*
- 6 Aamidor, A., (1999), *Real Feature Writing. New Jersey: Lawrence Erlbaum Assoc*
- 7 Blundell, William. E , (1998), *The Art and Craft of Feature Writing, Plume Inc.*
- 8 Garrison, Bruce , (1998), *Professional Feature Writing, Laurence Eribaum Assoc*
- 9 Bean, Erik , (1999) , *Writing for Publication, Deadline Communications*
- 10 Krantz, Marshall , (1996), *Ideas and Research, Writers' Digest Books*
- 11 Bruce D. Itule, Douglas A Anderson, (2006), *News Writing and Reporting for Today's Media, McGraw Hill*
- 12 Melvin Mencher, (2007), *News Reporting & Writing, McGraw Hill*
- 13 Tim Harrower, (2006), *Inside Reporting, A Practical guide to the Craft of Journalism, McGraw Hill.*
- 14 Stephen G. Bloom, (2002), *Writing Narrative Journalism : Inside the Writers mind, Iowa Sate University Press.*

**ADDITIONAL READING**

- 1 Kennedy, A , (1992), *Beyond the Inverted Pyramid, Bradford Books*
- 2 Bowles, D., & Borden, (2000), *Creative Editing, (3rd ed.) Belmont, CA: Wadsworth*
- 3 Elbow Peter, (1998), *Writing with Power. Oxford University Press. N.Y*
- 4 Johnson, C., (2005), *21st Century: Feature Writing. New York: Allyn and Bacon*



- 5 Wray, Cheryl Sloan , (1996), *Writing for Magazines: A Beginners Guide*, NTC Publishing Group
- 6 Wilbur, R., (1995), *Magazine feature writing*. New York: St. Martin's Press
- 7 Wilber, Rick G, (1994), *Magazine Feature Writing*, Bedford Books
- 8 Greene, B., (1988), *Handbook of Magazine Article Writing*. Cincinnati, OH: Writer's Digest
- 9 Wray, C., (2005), *Writing for Magazines*, (2nd ed.). Boston: McGraw Hill.
- 10 Ward, H., (1993), *Magazine and Feature Writing*. Mountain View, CA: Mayfield Publishing.
- 11 Wells, Gordon , (1997), *The Craft of Writing Articles*, Allison and Burby Inc.
- 12 Hennessey, Brendan, (1997), *Writing Feature Articles: A Practical Guide to Methods and Markets*, Focal Press.
- 13 Friedlander, Edward. J , (1999), *Feature Writing for Newspapers and Magazines: The Pursuit of Excellence*, Addison-Wesley Publishing Co.
- 14 Bell, James Scott,( 2008), *Revision and Self Editing (Write great Fiction)*, Writers Digest Books, New York,

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**JOURNALISM & MASS COMMUNICATION****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-IV****RADIO & TV JOURNALISM****Max. Marks: 100**

Theory	70 marks
Internal Assessment	10 marks
Time	3 Hours
Practical	20 marks

**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**

	<b>Max. Marks</b>	<b>:</b>	<b>20</b>
1. Compilation of 5-minute weekly TV news bulletins			10 Marks
2. Compilation of 10-minute weekly radio bulletins.			10 Marks

**ESSENTIAL READING**

- 1 Chatterji,P.C. , (1991), *Broadcasting in India*. SAGE, New Delhi
- 2 Luthra, H.P., 1984, *Indian Broadcasting*. Publications Division, Min. of I & B.
- 3 Rao, B.S.S., (1992), *Television for Rural Development*. Concept Publishers, New Delhi,
- 4 Shivastava, K.M., (1989), *Radio and TV Journalism*, Sterling Publications Pvt. Ltd., New Delhi,
- 5 Maloney, Martin J. & Rubenstein, Paul Max, (1980), *Writing for the Media*. Prentice Hall, New Jersey
- 6 Machin, David & Niblock, Sarah, ( 2006), *News production: Theory and Practice*, Routledge, New York
- 7 Shrivastava, K.M., (1989), *Radio and TV Journalism*, Sterling Publishers, New Delhi.
- 8 Cohler, David Keith, (1985), *Broadcast Journalism*. Prentice-Hall, New Jersey.
- 9 Shukla, A.K, (2008), *Handbook of Journalism and Mass Communication*. Rajat Publications, New Delhi.
- 10 Fedler, Fred, bender, John R., Davenport, huanda, Drager, Michael W., (2005), *Reporting for the media*. Oxford University Press, New York.
- 11 Kaushik, Sharda, (2000), *Script to Screen: An Introduction to TV Journalism*, Macmillan, New Delhi,
- 12 Cohen, Akilia A, (1987), *The Television News Interview*. SAGE, New Delhi,
- 13 Shrivastava, K.M., (2005), *Broadcast Journalism in the 21<sup>st</sup> century* new Dawn Press Group, New Delhi,
- 14 Fulding, Ken, (1990), *Introduction to Television Production*, Longman, New York,

**ADDITIONAL READING**

- 1 Ken Fielding , *Introduction to Television Production* (Arizona State University) Longman New York & London
- 2 Lynee S. Gross WCB, *Tele Communication- An Introduction to Electronic Media*. Wm. C. Brown Publisher
- 3 Zettl, Herbert, 2003, *The Handbook of Strategic Public Relations and Integrated Communications*. Tata McGraw Hill, New York,
- 4 Shrivastava, K.M, (2005), *Broadcast Journalism in the 21st century* New Dawn Press Group, New Delhi.
- 5 Fulding, Ken, (1990), *Introduction to Television Production*, Longman, New York.
- 6 Cohen, Akiba N., (1987), *The Television News Interview*, SAGE, Beverly Hills.

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## **POLICE ADMINISTRATION**

**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**

**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 ( $9 \times 2 = 18$  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 ( $4 \times 18 = 72$  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:**

- |    |                                   |   |  |
|----|-----------------------------------|---|--|
| 1. | Administrative Reforms Commission | : | Report on Personnel Administration, 11 <sup>th</sup> Report, Government of India, New Delhi. |
| 2. | Goel, S.L.                        | : | Public Personnel Administration, Deep & Deep Publication Pvt. Ltd., New Delhi, 2006.         |
| 3. | Mamoria, C.B.                     | : | Personnel Management, Himalaya Publishing House, Mumbai, 2007.                               |
| 4. | Zehra, Kaneez                     | : | Training of I.P.S., Ashish Publishing House, New Delhi, 1993.                                |
| 5. | Muthuswamy, P.                    | : | Swamy's Manual on Disciplinary Proceedings, Swamy Publishers (p) Ltd., Madras, 1986.         |

**Further Readings**

- |    |  |   |   |
|----|--|---|---|
| 1. | Saxena, A.P.   | : | Training and Development in Government, The Indian Institute of Public Administration, New Delhi, 1974. |
| 2. | Singh, Sahib Bhayana, Singh, Swinder and Dogra, R.K. | : | Public Personnel and Financial Administration, New Academics, Jalandhar, 1990.                          |
| 3. | Ghosh, P.  | : | Personnel Administration in India, Sudha Publications Private Limited, New Delhi, 1973.                 |
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**POLICE ADMINISTRATION****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-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**

National Security: Concept and Significance. Challenges to National Security in India – Contemporary Issues.

**Essential Readings:**

1. Bailey, David, H. : The Police and Political Development in India, Princeton University Press, New Jersey, 1969.
2. Sharma, K.K. : Law and Order Administration, National Book Organization, New Delhi, 1985.
3. Srivastava, Aparna : Role of Police in a Changing Society, A.P.H. Publishing Corporation, New Delhi, 1999.
4. Ghosh, S.K. and Rustamji, K.F. : Encyclopaedia of Police in India, Volume - I, Ashish Publishing House, New Delhi, 1993.
5. Bharti, Dalbir : *Police Evam Log: Donon ke Adhikar Va Zimmedarian*, A.P.H. Publishing Corporation, New Delhi, 2007.
6. Singh, Yogendra : Social Change in India: Crisis and Resilience, Har-Anand Publications Pvt. Ltd., New Delhi, 2007.

**Further Readings**

1. Mayhall, Pamela D.et.al. : Police-Community Relations and the Administration of Justice, Prentice-Hall Inc., New Jersey, 1995.
2. Ghosh, S.K. : Keeping the Peace: For Whom the Bell Tolls (Police Then and Now), Ashish Publishing House, New Delhi, 1989.
3. Vadackumchery, James & Kattakayam, John : Human Behaviour and Law Enforcement, Ashish Publishing House, New Delhi, 1995.
4. Owens, R.Glynn and Ashcraft, J. Barrie : Violence: A Guide for the Caring Professions, Croom Helm, New Hampshire, USA, 1985.
5. Singh, K.P. : Police Gyan Vigyan, The Bright Law House Delhi, 2003.



**WOMEN'S STUDIES****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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 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 :**

Agarwal, Bina, **The Gender and Environment Debate: Lessons from India, Feminist Studies**, Vol. 18, No.1, Spring 1992, pp 119-158.

Anderson, Margaret, **Thinking About Women**, Macmillan, New York, 1993.

Beasley, Chris, **What is Feminism?**, Sage, London, 1999.

Bell Hooks, **Ain't I a Woman: Black Women and Feminism**, Pluto Press, London, 1982.

Chatterjee, Mohini, **Feminism and Gender Equality**, Aavishkar, Jaipur, 2005.

Collins, Patricia Hill, **Black Feminist Thought: Knowledge, Consciousness and the Politics of Empowerment**, Routledge, New York, 1999.

Desai, Leela, **Issues in Feminism**, Pointer Pub., Jaipur, 2004.

Molyneux, Maxinne and Steiberg, Deborah Lynn, **Mies and Shiva's Ecofeminism: A New Testament**, **Feminist Review**, No. 49, Spring 1995, pp 86-10.

**Further Readings :**

Banks, Olive, **Faces of Feminism: A Study of Feminism as a Social Movement**, St. Martin's Press, New York, 1981.

Freeman, Jo (ed.), **Women: A Feminist Perspective**, Palo Alto, California : Mayfield, 1975.

Kosambi, Meera, **Crossing Thresholds: Feminist Essays in Social History**, Permanent Black, New Delhi, 2007.

Mishra, Binod (ed.), **Critical Responses to Feminism**, Sapru & Sons, New Delhi, 2006.

Shukla, Bhaskar A., **Feminism : From Mary Wollstonecraft to Betty Friedan**, Sapru & Sons, New Delhi, 2007.

Spender, Dale, **Feminist Theorists: Three Centuries of Women's Intellectual Traditions**, The Women's Press, London, 1982.

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**WOMEN'S STUDIES****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-IV****Paper : Status of Women in India – II**

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

**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) Why Health is a Gender Issue?
- (b) Definition : Health & Reproductive Health
- (c) Factors affecting Women's Health Status
- (d) 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 of Household work.
- (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 each of the papers 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 :**

1. Chatterjee, Meera , **A Report on Indian Women from Birth to Twenty**, NIPCCD, New Delhi, 1999.
2. Gopalan, Sarala and Shiva, Mira, **National Profile on Women, Health and Development**, VHAI & WHO, 2000.
3. Gopalan, Sarala, **Towards Equality - The Unfinished Agenda : Status of Women in India -2001**, National Commission for Women, New Delhi, 2002.
4. Menon-Sen, Kalayani and Shiva Kumar, A.K., **Women in India ! How Free?, How Equal?** Report Commissioned by the Office of the United Nations Resident Coordinator in India, New Delhi, 2001.
5. **National Human Development Report, 2001**, Planning Commission, Govt. of India, March, 2002.

**Further Readings :**

1. Ali, Aruna Asaf, **Resurgence of Indian Women**, Nehru Memorial Museum and Library, New Delhi, Radiant ,1991.
2. Ali, Azra Asghar, **The Emergence of Feminism Among Indian Muslim Women**, 1920-1947, Oxford, Karachi, 2000.
3. Anand, Meena **Dalit Women : Fear and Discrimination**, Isha Books, Delhi, 2005.
4. Bhattacharya, Rinki (ed.), **Behind Closed Doors : Domestic Violence in India**, Sage, New Delhi, 2004.
5. Choudhary, Prem, **Contentious Marriages : Eloping Couples : Gender, Caste and Patriarchy in Northern India**, OUP, New Delhi, 2007.
6. Desai, Neera and Krishnaraj, Maithreyi (ed.), **Women and Society in India**, Ajanta Publication, New Delhi, 1987.
7. Kumar, Hajira (ed.), **Status of Muslim Women in India**, Aakar Books, Delhi, 2002.
8. Mohanti, Bedabati, **Violence Against Women: An Analysis of Contemporary Realities**, Kanishka Publication, New Delhi, 2005.
9. Mohini, Giri, V., **Deprived Devis : Women's Unequal Status in Society Gyan**, New Delhi, 2006.
10. Rajawat, Mamta, **Dalit Women : Issues and Perspectives**, Anmol Pub, New Delhi, 2006.

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**HUMAN RIGHTS & DUTIES****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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.  $9 \times 2 = 18$  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.  $4 \times 18 = 72$ .

**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:**

1. Aarti Singh Introduction to Human Rights and Duties: An Introduction to Human Rights: Concepts in Human Rights and the United Nations (2016), Lambert Academic Publishing (LAP).
2. Kaur, Amrit Pal, Promotion of Human Rights Law & Implementation,(2014) New Era Law Publications, New Delhi.
3. Lexis Manp/Kumar Sinha, Implementation of Basic Human Rights (2013), Nexis, New Delhi.
4. Brownlie Ian, et al.(eds), *Basic Documents on Human Rights*, (2006) Oxford.
5. David Robertson, *A Dictionary of Human Rights*, Europa Publications, (2004), London.
6. Ray, Arun National Human Rights Commission of India: Formation Functioning and Future Prospects (Vol.# 2), (2004), Atlantic Publication, New Delhi.
7. Nirmal, C.J., Human Rights in India: Historical, Social and Political Perspectives (2002) Oxford New Delhi.
8. Gandhi, P.R. (ed), *Blackstone's International Human Rights Documents* (2001),Universal, Delhi.
9. Basu, D.D., *Introduction to the Constitution of India*, (1997), New Delhi: Prentice Hall of India.
10. Henry J. Steiner, et al., (eds.), *International Human Rights in Context*, Chapter 10, (1996) Clarendon Press, Oxford.
11. Brundland Report, *Our Common Future*, (1986), Oxford.

**Further Readings:**

1. Kapoor, S.K.; *Human Rights under International Law and Indian Law*, (2014) Central Law Publications, Allahabad.
2. Kapoor, S.K.; *Human Rights under International Law*, (2009) Central Law Publications, Allahabad.
3. Paul, R.C., *Situation of Human Rights in India*, (2000) Commonwealth New Delhi: Publishers.
4. Rao, Ashiwini, *Status of Human Rights in India*, (2010) New Delhi, Pacific.
5. South Asian Human Rights Documentation Centre : *Human Rights and Humanitarian Law*, (2008) South Asian Human Rights Documentation Centre, New Delhi.
6. South Asian Human Rights Documentation Centre: *Introducing Human Rights*, New Delhi, (2006) South Asian Human Rights Documentation Centre, New Delhi.

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**HUMAN RIGHTS & DUTIES****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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.  $9 \times 2 = 18$  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.  $4 \times 18 = 72$ .

**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 III: 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:**

1. Pavithran, K.S., *Human Rights in India: Discourses and Contestations* (2018) Gyan Publishing, Mumbai.
2. Singh Karamjeet and Kaur Navleen, *Gender Mainstreaming in Higher Education: An Inclusive Approach* (2018), Bharti, Publications, New Delhi.
3. Gupta Namita, *Human Rights in India: Contemporary Issues and Challenges* (2017) Regal Publication, New Delhi.
4. Aggarwal, H.O., *Human Rights*, (2014), Central Law Publications, New Delhi
5. Anuradha, K.P., *Human Rights Issues in India* (2010), Adhyayan Publishers & Distributors, New Delhi.
6. Satish C. Shastri(ed), *Human Rights, Development and Environmental Law: An Anthology*, (2007), Jain Book Agency, Delhi.
7. Amrita Aggarwal, *Human Rights for Survival of Civilization*, (2004) Kalinga Publications.
8. V.R.Krishna Iyer, *Human rights – A judge’s Miscellany*, (1995) B. R. Publishing Corporation, Delhi.
9. Kalpana Kannabiran, *Crafting Human Rights Cultures*, (2006), NALSAR University of Law.
10. Upendra Baxi (ed.), *The Right to be Human*, (1987), Lancer International, New Delhi.
11. R.C.Mishra, *Human Rights and Policing*, Authors Press, (2005), New Delhi.

**Further Readings:**

1. K.I. Vibhute, *Criminal Justice A Human Rights Perspective of the Criminal Justice Process in India*, (2004), Eastern Book Company, Lucknow.
2. Khanna, S.K., *Children and the Human Rights*, (1998), Commonwealth, New Delhi.
3. Pandit Kamalkar, *Human Rights and Criminal Justice*, (2010), Asia Law House, Hyderabad.
4. Pachauri, S.K., *Children and Human Rights*, (1999), APH Publications, Delhi.
5. Pachauri, S.K. *Women and Human Rights*, (1999), APH Publications, New Delhi.

**RELIGIOUS & SIKH STUDIES**  
**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**  
**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**

Life, Teachings and Contribution: Guru Nanak Dev, Guru Angad Dev, Guru Amar Das, Guru Ram Das and Guru Arjun Dev; Martyrdom of Guru Arjan Dev.

**Unit - II**

Life, Teachings and Contribution: Guru Hargobind, Guru Har Rai, Guru Harkrishan, Guru Teg Bahadur and Guru Gobind Singh; Martyrdom of Guru Tegh Bahadur.

**Unit - III**

Life, Teachings and Contribution: Bhagats and Bhattas

**Unit - IV**

Compilation of the *Adi Granth*; Foundation of the Khalsa

### Essential Readings

- ਅੰਮ੍ਰਿਤਪਾਲ ਕੌਰ, ਡਾ. (ਮੁਖ ਸੰਪਾ.) ਖੋਜ ਪਤ੍ਰਿਕਾ, ਬਾਣੀਕਾਰ ਵਿਸ਼ੇਸ਼ ਅੰਕ-57 ਮਾਰਚ 2003, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਅਜਮੇਰ ਸਿੰਘ, ਡਾ. (ਸੰਪਾ.) ਖੋਜ ਪਤ੍ਰਿਕਾ, ਪ੍ਰਗਟਯੋ ਖਾਲਸਾ ਵਿਸ਼ੇਸ਼ ਅੰਕ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਰਾਜਿੰਦਰ ਸਿੰਘ ਜਾਲੀ, ਸਿਖ ਇਤਿਹਾਸ ਦੀਆਂ ਝਲਕੀਆਂ, ਜਾਲੀ ਲਿਟਰੇਟਚਰ ਹਾਊਸ ਦਿੱਲੀ-ਅਮਰੀਕਾ
- ਹਰਚਰਨ ਸਿੰਘ, ਡਾ., ਖੋਜ ਪਤ੍ਰਿਕਾ, ਗੁਰੂ ਨਾਨਕ ਵਿਸ਼ੇਸ਼ ਅੰਕ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਅੰਮ੍ਰਿਤਪਾਲ ਕੌਰ, ਡਾ., ਖੋਜ ਪਤ੍ਰਿਕਾ, ਬਾਣੀ ਸੰਪਾਦਨਾ ਵਿਸ਼ੇਸ਼ ਅੰਕ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਡਾ. ਹਰਜਿੰਦਰ ਸਿੰਘ ਢਿਲੋਂ, ਗੁਰੂ ਰਾਮਦਾਸ, ਰੂਹੀ ਪ੍ਰਕਾਸ਼ਨ, ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਨਗਰ, ਅੰਮ੍ਰਿਤਸਰ
- ਡਾ. ਅੰਮ੍ਰਿਤ ਲਾਲ ਪਾਲ, ਗੁਰੂ ਅਰਜਨ ਦੇਵ- ਜੀਵਨ ਤੇ ਬਾਣੀ, ਸੰਗਮ ਪਬਲੀਕੇਸ਼ਨ
- ਗੁਰਮੁਖ ਸਿੰਘ, ਗੁਰੂ ਅਰਜਨ ਦੇਵ: ਜੀਵਨ ਦਰਸ਼ਨ ਤੇ ਬਾਣੀ, ਰੂਹੀ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ
- ਸਤਿਬੀਰ ਸਿੰਘ, 'ਗੁਰ ਭਾਰੀ' ਜੀਵਨੀ ਗੁਰੂ ਹਰਿਗੋਬਿੰਦ ਜੀ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਖੋਜ ਪਤ੍ਰਿਕਾ, ਗੁਰੂ ਅਮਰਦਾਸ- ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- Banerjee, I.B., *Evolution of the Khalsa*, 2 vols., A. Mukherjee & Co., 1972 (2nd edn.).
- Grewal, J.S., *Guru Nanak in History*, Chandigarh: Panjab University, 1979.
- Mcleod, W.H., *Guru Nanak and the Sikh Religion*, Oxford: Oxford University Press, 1968.
- G.S. Talib: *Guru Nanak; His personality & Vision*

### Further Reading

- ਇੰਦੂਭੂਸ਼ਨ ਬੈਨਰਜੀ, ਖਾਲਸੇ ਦੀ ਉਤਪਤੀ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਪਿਆਰ ਸਿੰਘ, (ਸੰਪਾ.) ਸ੍ਰੀ ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ (ਫਾਰਸੀ ਸਰੋਤ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ
- ਡਾ. ਰਤਨ ਸਿੰਘ ਜੱਗੀ, ਡਾ. ਗੁਰਸ਼ਰਨ ਜੱਗੀ, ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਬਾਣੀ, ਗੁਰਮਤ ਪ੍ਰਕਾਸ਼ਨ, ਪਟਿਆਲਾ
- Grewal, J.S., *The Sikhs of the Punjab, The New Cambridge History of India*, New Delhi: Cambridge University Press, 1999 (2nd ed.).
- Teja Singh and Ganda Singh, *A Short History of the Sikhs: 1469-1765*, Vol.I, Patiala: Punjabi University, 1983 (rep.).
- Mann, Gurinder Singh, *The Making of the Sikh Scripture*, New York: 2001.

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**RELIGIOUS & SIKH STUDIES**

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020

**SEMESTER-IV****PAPER- IV SIKH LITERATURE AND INSTITUTIONS**

**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**

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

- ਨਰਿੰਦਰ ਕੌਰ ਭਾਟੀਆ ਅਤੇ ਜਸਵਿੰਦਰ ਕੌਰ ਢਿਲੋਂ, ਡਾ. (ਸੰਪਾ.) ਪ੍ਰਮੁੱਖ ਸਿੱਖ ਸੰਸਥਾਵਾਂ, ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ
- ਤਾਰਨ ਸਿੰਘ, ਗੁਰਬਾਣੀ ਦੀਆਂ ਵਿਆਖਿਆ ਪ੍ਰਣਾਲੀਆਂ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਦਰਸ਼ਨ ਸਿੰਘ, ਡਾ., ਧਰਮ ਅਧਿਐਨ ਅਤੇ ਸਿੱਖ ਅਧਿਐਨ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਬ੍ਰਹਮ ਜਗਦੀਸ਼ ਸਿੰਘ, ਜਪੁਜੀ, ਵਿਚਾਰਧਾਰਾ, ਪ੍ਰਬੰਧ ਤੇ ਪਾਠ, ਵਾਰਸ ਸ਼ਾਹ ਫਾਊਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ
- ਰਾਮ ਸਿੰਘ, ਡਾ. ਜਪੁਜੀ ਦੇ ਪੰਜ ਖੰਡ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਪਰਮਿੰਦਰ ਸਿੰਘ, ਕਿਰਪਾਲ ਸਿੰਘ, ਚੰਡੀ ਦੀ ਵਾਰ, ਲਾਹੌਰ ਬੁਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ
- ਰਤਨ ਸਿੰਘ ਜੱਗੀ, ਚੰਡੀ ਦੀ ਵਾਰ, ਗੁਰਮਤਿ ਪ੍ਰਕਾਸ਼ਨ ਪਟਿਆਲਾ
- ਹਰਬੰਸ ਸਿੰਘ ਗਿਆਨੀ, ਚੰਡੀ ਦੀ ਵਾਰ ਸਟੀਕ, ਸਹਿਗਲ ਪ੍ਰਿੰਟਰਜ਼ ਜਲੰਧਰ

### Further Reading

- Grewal, J.S., *The Sikhs of the Punjab, The New Cambridge History of India*, New Delhi: Cambridge University Press, 1999 (2nd ed.).
- Grewal, J.S., *Sikh Ideology, Polity and Social Order*, New Delhi: Manohar, 1996.
- Mcleod, W.H., *Sikhs and Sikhism*, Oxford: Oxford University Press, 1999.
- Jagraj Singh: *A complete guide to Sikhism*, Unistar Chandigarh, 2011

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**ENVIRONMENT CONSERVATION**  
**B.A. /B.Sc.(GENERAL) SECOND YEAR EXAMINATION, 2019-2020**  
**SEMESTER-III**

**Paper : Air Pollution and Climate Change**

Theory Hours	Practical Hours	Theory Marks	Internal Assessment Marks	Practical Marks	Practical Internal Assessment Marks	Total Marks
6	4	65	10	20	5	100

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 NO<sub>x</sub> and SO<sub>2</sub> 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.

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**ENVIRONMENT CONSERVATION****B.A. /B.Sc.(GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-IV****Paper : SOLID WASTE AND DISASTER MANAGEMENT**

<b>Theory Hours</b>	<b>Practical Hours</b>	<b>Theory Marks</b>	<b>Internal Assessment Marks</b>	<b>Practical Marks</b>	<b>Practical Internal Assessment Marks</b>	<b>Total Marks</b>
<b>6</b>	<b>4</b>	<b>65</b>	<b>10</b>	<b>20</b>	<b>5</b>	<b>100</b>

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**

**Solid waste:** Sources, nature and characteristics; categories of solid waste, Biodegradable and non-biodegradable waste; Plastic nuisance. Solid waste disposal: Sanitary landfills, Composting, optimum conditions for composting, Pyrolysis, Incineration and Refuse Derived Fuels. Fly Ash utilization, MSW Handling Rules, 2000.

**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**

**Organic farming:** Definition, Need of Organic Farming, Methods: Soil management, weed management, control of pests. Its advantages. Organic Food, its benefits.

**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**

1. Critchfield, Howard J., General Climatology, Second Edition, Prentice-Hall, Inc., 1982.
2. Houghton, J., Global Warming, The Complete Briefing, 3<sup>rd</sup> Edition, Cambridge Univ. Press, 2006.
3. Hill, M. K., Understanding Environmental Pollution, Cambridge Univ. Press, 2008.
4. Malsin, M., Global Warming, A Very Short Introduction, Oxford Univ. Press, 2009
5. Tchobanogloas, G., Integrated Solid Waste Management: Engineering, Principle and Management. McGraw Hill, USA. 1993.
6. Singh, H.M., Solid Waste Management. Alfa Publications, Delhi. 2010.
7. Bhatnagar R.K. & Palta R.K., Earthworm Vermin Culture & Vermi Composting, Kalyani, Pub. 2007.
8. Ranganathan L.S, Vermi biotechnology: From Soil Health to Human Health, Updesh Purodit Pub. Jodhpur, 2006.
9. Aggarwal, A. K., Water Pollution, APH Publications, New Delhi, 2008.
10. American Public Health Association, Standard Methods for Examination of Water and Wastewater, APHA, New York, 2003.
11. Sengupta, B., John, S. & Abraham, T. Forth Estate, A Handbook on Air, Water and Land Pollution. IDMA Foundation for Sustainable Development and BR Publications Corporation, Delhi. 2006.
12. Aggarwal, A. K., Noise Pollution. APH Publications, New Delhi, 2008.
13. Veeresh, G. K., Organic Farming. Foundation Books, Delhi, 2006.
14. Gehlot, D., Organic Farming: Components and Management, Agrobios, Jodhpur, 2010.
15. Singh, K. K. & Aleyer, L., Disaster Management: Manmade Disasters. APH Publications. 2010.
16. Dhunna, M., Disaster Management, Vayu Education of India, Delhi, 2009.
16. Sharma & Sharma, Natural Disasters, APH Publications, 2009.
17. Dara, S.S., A Textbook of Environmental Chemistry. 2<sup>nd</sup> Edition. S. Chand & Company Ltd., Ram Nagar, New Delhi, 2010.

**MATHEMATICS**  
**B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020**  
**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**

Euler's theorem on homogeneous functions. Taylor's theorem for functions of two and three variables. Jacobians. Envelopes. Evolutes. Maxima, minima and saddle points of functions of two and three variables. Lagrange's multiplier method.

***References***

1. Gabriel Klaumber : Mathematical Analysis, Marcel Dekkar, Inc. New York, 1975.
2. T.M. Apostol : Mathematical Analysis, Narosa Publishing House, New Delhi, 1985.
3. R.R.Goldberg : Real Analysis, Oxford & I.B.H. Publishing Co., New Delhi, 1970.
4. D. Soma Sundaram and B. Choudhary : A First Course in Mathematical Analysis, Narosa Publishing House, New Delhi, 1997.
5. P. K. Jain and S. K. Kaushik : An Introduction to Real Analysis, S. Chand & Co., New Delhi, 2000.
6. Gorakh Prasad : Differential Calculus, Pothishala Pvt.Ltd., Allahabad.

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|-----|------------------------------|---|--|
| 7.  | J. D. Murray & M. R. Spiegel | : | Theory and Problems of Advanced Calculus, Schaum Publishing Co., New York. |
| 8.  | S.C.Malik                    | : | Mathematical Analysis, Wiley Eastern Ltd., New Delhi.                      |
| 9.  | Shanti Narayan               | : | A Course of Mathematical Analysis, S. Chand and Company, New Delhi         |
| 10. | J. D. Murray & M.R. Spiegel  | : | Vector Analysis, Schaum Publishing Company, New York.                      |
| 11. | N.Saram and S.N. Nigam       | : | Introduction to Vector Analysis, Pothishala Pvt. Ltd., Allahabad.          |
| 12. | Shanti Narayan               | : | A Text Book of Vector Calculus, S. Chand & Co., New Delhi.                 |

### Paper II : DIFFERENTIAL EQUATIONS- I

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

Exact differential equations. First order and higher degree equations solvable for  $x$ ,  $y$ ,  $p$ . Clairaut's form. Singular solution as an envelope of general solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients.

#### 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

- |    |                |   |   |
|----|----------------|---|---|
| 1. | Erwin Kreyszig | : | Advanced Engineering Mathematics, John Wiley & Sons Inc., New York, 1999.     |
| 2. | D.A. Murray    | : | Introductory Course on Differential Equations, Orient Longmen, (India), 1967. |
| 3. | A.R. Forsyth   | : | A Treatise on Differential Equations, Macmillan and Co. Ltd., London.         |
| 4. | Ross, S.L.     | : | Differential Equations, John Willey & Sons, 2004.                             |

**Paper III : STATICS**

Max. Marks	:	30
Time	:	3 Hours

- 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 per paper 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**

1. S.L. Loney : Statics, Macmillan and Company, London.
2. R.S. Verma : A Text Book on Statics, Pothishala Pvt. Ltd., Allahabad.
3. K.R.Chaudhery and A.C.Aggarwal : Elements of Mechanics, Statics and Dynamics. S Chand and Company
4. S. L. Loney : The elements of Statics and Dynamics, 5<sup>th</sup> edition, Cambridge University Press, 1947.

**MATHEMATICS****B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-IV****Paper I: ADVANCED CALCULUS II**

Max. Marks	:	30
Time	:	3 Hours

- 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 per paper 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:**

1. D. Soma Sundaram : A First Course in Mathematical Analysis, Narosa Publishing House, New Delhi 1997.
2. P. K. Jain and S. K. Kaushik : An Introduction to Real Analysis, S. Chand & Co., New Delhi 2000.
3. Murray R. Spiegel : Theory and Problems of Advanced Calculus, Schaum Publishing Co., New York.
4. S.C.Malik : Mathematical Analysis, Wiley Eastern Ltd., New Delhi.
5. O.E.Stanaitis : An Introduction to Sequences, Series and Improper Integrals, Holden – Dey, Inc., San Francisco, California.
6. Earl D. Rainville : Infinite Series, The Macmillan Company, New York.
7. N. Piskunov : Differential and Integral Calculus, Peace Publishers, Moscow.

**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**

Series solution of differential equations-Power Series method, Bessel and Legendre equations.

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  $t^n$ , Division by  $t$ .

**References:**

1. Erwin Kreyszig : Advanced Engineering Mathematics, John Wiley & Sons Inc., New York, 1999.
2. D.A. Murray : Introductory Course on Differential Equations, Orient Longmen, (India) 1967.
3. A.R. Forsyth : A Treatise on Differential Equations, Macmillan and Co. Ltd., London.
4. Sneddon, I.N. : Elements of Partial Differential Equations, McGraw Hill, 1957.
5. J. D. Murray & M. R. Spiegel : Schaum Series, Laplace Transforms.

6. Ross, S.L. : Differential Equations, John Willey & Sons, 2004.  
 7. Earl D. Rainville : Infinite Series, The Macmillan Company, New York.  
 8. N. Piskunov : Differential and Integral Calculus, Peace Publishers, Moscow.

**Paper III : DYNAMICS**

Max. Marks : 30  
 Time : 3 Hours

- 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 per paper 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:**

1. S.L. Loney : An Elementary Treatise on the Dynamics of a Particle and of Rigid bodies, Cambridge University Press, 1956.
2. K.R.Chaudhery and A.C.Aggarwal : Elements of Mechanics, Statics and Dynamics. S Chand and Company
3. S. L. Loney : The elements of Statics and Dynamics, 5th edition, Cambridge University Press, 1947.
4. Donald T. GreenWood : Principles of Dynamics, Second Edition, Prentice Hall of India.
5. M . Ray : A Text Book on Dynamics , S. Chand and Company- 1989



## COMPUTER SCIENCE SEMESTER-III

### SCHEME OF EXAMINATION

THIRD SEMESTER			Exam . Hrs	Ext.	Int.	Max. Marks
Paper – CS05	Theory-A	Computer Organization	3	30	5	35
Paper –CS06	Theory-B	Object Oriented Programming using (C++)	3	30	5	35
Paper – PCS03	Practical-C	Practical Based on Paper – CS06	3	30	--	30

*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

*Basic Building Blocks :* Combinatorial logic design : Gates, Half Adder, Full Adder, Encoder, Decoder, Multiplexer : Sequential Building Block : Flip-Flops, Registers, Counters: Synchronous and Asynchronous Counters, Bus.

*Microinstructions :* Register Transfer, Arithmetic, Logical and Shift Operations; Instruction : Instruction Format, Instruction Cycle; Interrupt: Interrupt types, Interrupt Cycle.

**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 :**

1. Mano, M.M. : *Computer System Architecture*, 3<sup>rd</sup> Ed., Dec., 1998, PHI.

**Further Reading :**

2. Tannenbaum, A.S. : *Structured Computer Organization*, 3<sup>rd</sup> Ed., Oct., 1993, PHI.
3. Gear, C.W. : *Computer Organisation and Programming*, McGraw Hill, 1975.
4. Langholz, G., Grancioni, J. & Kandel, A. : *Elements of Computer Organization*, Prentice Hall International, 1988.
5. Hayes : *Computer Architecture and Organization*, McGraw Hill, International Edition.
6. Sloan, M.E. : *Computer Hardware and Organization*, 2<sup>nd</sup> Edition, Galgotia Pvt. Ltd.

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**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**

*Object Concepts*: Arrays of Objects, Objects as function arguments: Pass by value, Pass by Reference, Pointers to Objects.

*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 :**

1. Stroustrup : *The C ++ Programming Language, Addison Wesley.*
2. E. Balaguruswamy : *Object Oriented Programming with C++, TMH.*

**Further Reading :**

3. Robert Lafore : *OOP in Turbo C++, Galgotia.*
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

FOURTH SEMESTER			Exam . Hrs	Ext.	Int.	Max. Marks
Paper – CS07	Theory-A	Database Concepts	3	30	5	35
Paper –CS08	Theory-B	Data Structures	3	30	5	35
Paper – PCS04	Practical-C	Practical Based on Paper – CS08	3	30	--	30

*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

*Relational Algebra and Calculus:* Storage Organization for Relations, Relational Algebra: Operations - union, intersection, difference, Cartesian product, projection, selection, division and relational algebra queries; Relational Calculus: Tuple oriented and domain oriented relational calculus and its operations.

**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 :**

1. Date, C.J., 1981 : *An Introduction to Data Base Systems*, Vols. I and II, Addison-Wesley.

**Further Readings**

2. Ullman, Jeffrey D., : *Principles of Data Base Systems*, 2<sup>nd</sup> Edition, Galgotia Publ. Pvt. Ltd. 1982.
3. Whittington, R.P. : *Data Base System Engineering*, Clavendon Press.
4. Pratt, P., 1987 : *Data Base Systems Management and Design*, Boyd and Fraser Publ. Comp.

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**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 :**

1. Lipschultz L. Seymour, 2001 : Data Structure, Schaum Outline Series, TMH, New Delhi.

**Further Readings :**

2. Tannenbaum, Aaro M., 1990 : Data Structure Using C, Pearson.

**Paper – PCS04 : Practical Based on Paper CS08 – Implement Data Structures Operations using C / C++.**

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**STATISTICS****B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****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. 2<sup>nd</sup> year only if he/she had taken up the corresponding subject in B.A./B.Sc. 1<sup>st</sup> year.
  3. There are two papers with codes 201 and 202 in the subject of Statistics in B.A./B.Sc. 3<sup>rd</sup> 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**

<b>Maximum Marks</b>	<b>: 75</b>
<b>Theory</b>	<b>: 65</b>
<b>Internal Assessment</b>	<b>: 10</b>
<b>Time allowed</b>	<b>: 3 hours</b>

**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 :**

1. Goon A.M., Gupta M.K., Dasgupta. B. (2005) : Fundamentals of Statistics, Vol. I, World Press, Calcutta.
2. Miller, I. and Miller, M. (2002) : John E. Freund's Mathematical Statistics (6<sup>th</sup> addition, low price edition), Prentice Hall of India.

**Additional References :**

1. Mood A.M., Graybill F.A. and Boes D.C. (1974) : Introduction to the Theory of Statistics, McGraw Hill.
2. Bhat B.R., Srivenkatramana T and Rao Madhava K.S. (1997) : Statistics : A Beginner's Text, Vol. I, New Age International (P) Ltd.
3. Snedecor G.W and Cochran W.G. (1967) : Statistical Methods. Iowa State University Press.
4. Spiegel, M.R , Stephens, L.J. and Kumar N. (2010) : Schaum's outlines *Statistics*, (4<sup>th</sup> edition) Tata McGraw Hill Education Private Limited

**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).

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## STATISTICS

### B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020 SEMESTER-IV

- 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. 2<sup>nd</sup> year only if he/she had taken up the corresponding subject in B.A./B.Sc. 1<sup>st</sup> year.
  3. There are two papers code named papers 203 and 204 in the subject of Statistics in B.A./B.Sc. 4<sup>th</sup> 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

<b>Maximum Marks</b>	<b>: 75</b>
<b>Theory</b>	<b>: 65</b>
<b>Internal Assessment</b>	<b>: 10</b>
<b>Time allowed</b>	<b>: 3 hours</b>

**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:

1. Goon A.M., Gupta M.K., Das Gupta. B. (2005) : Fundamentals of Statistics, Vol. II, World Press, Calcutta.
2. Singh, D. and Chaudhary, F.S (1986). : Theory and Analysis of Sample Survey Designs, John Wiley and sons.

#### Additional References:

1. Sukhatme, B.V (1984) : Sample Survey Methods and Its Applications, Indian Society of Agricultural Statistics.
2. Murthy M.N (1967) : Sampling Theory and Methods, Statistical Publishing Society, Calcutta.
3. Sampath S. (2000) : Sampling Theory and Methods, Narosa Publishing House.
4. Dass M.N. and Giri (1986) : Design and Analysis of Experiments, Springer Verlag.
5. Cochran W.G. and Cox G.M (1992) : Experimental Designs, John Wiley and Sons.
6. Montgomery, D. C. (2000) : Design and Analysis of Experiment, John Wiley, New York.

#### 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.

**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**

<b>Maximum Marks</b>	<b>:</b>	<b>100</b>
<b>Theory</b>	<b>:</b>	<b>90</b>
<b>Internal Assessment</b>	<b>:</b>	<b>10</b>
<b>Time allowed</b>	<b>:</b>	<b>3 hours</b>

**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**

1. Ayres F. (1999) : First Year College Mathematics, Schaum Series, Mc Graw Hill, New York.
2. Ayres F. (1980) : Matrices, Schaum Series, Mc Graw Hill, New York.

**Books suggested for supplementary Reading**

1. Kindle J.H. (1990) : Analytical Geometry, Schaum Series, Mc Graw Hill, New York.
2. Ayres F. (1999) : Calculus, Schaum Series, Mc Graw Hill, New York.
3. Spiegel M.R. (2002) : Advanced Calculus, Schaum Series, Mc Graw Hill, New York.

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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- 202 AS: STATISTICAL METHODS**

<b>Maximum Marks</b>	<b>:</b>	<b>100</b>
<b>Theory</b>	<b>:</b>	<b>90</b>
<b>Internal Assessment</b>	<b>:</b>	<b>10</b>
<b>Time allowed</b>	<b>:</b>	<b>3 hours</b>

**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**

1. Goon, A.M., Gupta, M.K. and Dasgupta, B (2005). : 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).
2. P.L.Meyer, (1971) : Introductory Probability and Statistical Applications, Addison Wesley. American Pub. Co.

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## PHYSICS

### B.Sc. (GENERAL) SECOND YEAR (3<sup>rd</sup> and 4<sup>th</sup> Semester) EXAMINATION, 2019-2020

#### 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:

Paper A	:	Statistical Physics and Thermodynamics – I	Total Teaching hrs. 30
Paper B	:	Optics and Lasers –I	Total Teaching hrs. 30
Paper C	:	Quantum Physics-I	Total Teaching hrs. 30
		Physics Practicals	Total Teaching hrs. 45

#### **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

Phase space and its division into elementary cells, three kinds of statistics. The basic approach in the three statistics. Maxwell-Boltzman statistics applied to an ideal gas in equilibrium, experimental verification of Maxwell-Boltzman's law of distribution of molecular speeds.

Need of quantum statistics--B.E. statistics, derivation of Planck's law of radiation, deduction of Wien's displacement law and Stefan's law from Planck's law, F.D. statistics, Comparison of M.B., B.E. and F.D. statistics.

#### Books Suggested :

##### *Essential Readings :*

1. "Statistical Physics and Thermodynamics", V.S. Bhatia, (Shoban Lal Nagin Chand, Jalandhar).
2. "A Treatise on Heat" Saha and Srivastava (Indian Press, Ahmedabad, 1972).

##### *Further Readings:*

1. *Thermal Physics* by C. Kittel & H. Kroemer, CBS Pub., 1987.
2. *Thermal Physics*, S.C. Garg, R.M. Bansal, and C.K. Ghosh, TMH, 2000.

**Paper-B : OPTICS AND LASERS-I****(30 Hrs.)****UNIT-I**

*Interference* : Concept of coherence, spatial and temporal coherence, coherence time, coherence length, area of coherence. Conditions for observing interference fringes. Interference by wavefront division and amplitude division. Young's double slit experiment. Lloyd's mirror and Fresnel's biprism, phase change on reflection. Newton's rings, Michelson interferometer—working, principle and nature of fringes. Interference in thin films, Role of interference in anti-reflection. Multiple beam interference, Fabry-Perot interferometer, nature of fringes, finesse.

**UNIT-II**

*Diffraction* : Huygen-Fresnel 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, Moire'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.
3. *Physics for Degree Students*, C. L. Arora and P .S. Hemne, S. Chand & Co., 2014.

***Further Readings:***

1. *Optics*, Born and Wolf, Pergamon.

**Paper-C : QUANTUM PHYSICS-I****(30 Hrs.)****UNIT-I****Formalism of Wave Mechanics :**

- (i) Planck'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, Interferometry 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.
- (iii) Fundamental postulates of quantum mechanics. Eigenvalues and eigenfunctions. Operator formalism, Position, momentum and energy operators, expectation values, Ehrenfest theorem, Hermitian operators.

(Chapter 5 of book 1 and book 2)

**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.
- (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 :**

1. *Concept of Modern Physics*, A. Beiser, S. Mahajan and S. R. Choudhury, Tata McGraw Hill, 6<sup>th</sup> Edition.
2. *Quantum Physics of Atoms, Molecular*, R. Eisberg & R. Resnick, Second Edition, John Wiley, 2002.
3. *Physics for Degree Students*, C.L. Arora and P.S. Hemne, S. Chand & Co., 2014

**Further Readings :**

1. *Modern Physics*, J. Bernstein, P.M. Fishbane, S.G. Gasiorowicz, Pearson, 2000.
2. *Elements of Modern Physics*, S.H. Patil, McGraw Hill, 1998.
3. *Quantum Mechanics*, E. Merzbacher, II Ed., John Wiley.

### 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 :

Total : 50 marks

- |   |    |
|---|----|
| 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. Thermo emf 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 :**

1. *A Laboratory Manual of Physics for Undergraduate Classes*, D.P. Khandelwal.
2. *B.Sc. Practical Physics*, C.L. Arora (S. Chand) & Co. (2014)
3. *Numerical Analysis* by C. Dixon.
4. *Programming with C, Schaum series* by Byron Gottfried & Jitender Chhabra.

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**PHYSICS****SEMESTER – IV****Papers, marks and teaching hours allocation:**

Paper A	:	Statistical Physics and Thermodynamics – II	Total Teaching hrs. 30
Paper B	:	Optics and Lasers –II	Total Teaching hrs. 30
Paper C	:	Quantum Physics-II	Total Teaching hrs. 30
		Physics Practicals	Total Teaching hrs. 45

**Paper A : STATISTICAL PHYSICS AND THERMODYNAMICS-II****(30 Hrs.)****UNIT-I**

Statistical definition of entropy, change of entropy of a system, additive nature of entropy, law of increase of entropy, reversible and irreversible processes with examples. Work done in a reversible process. Examples of increase of entropy in natural processes. Entropy and disorder. Brief review of the terms and Laws of Thermodynamics, Carnot's Cycle. Entropy changes in Carnot's Cycle. Applications of thermodynamics to thermoelectric effect, change of entropy along a reversible path in a P.V. diagram, entropy of a perfect gas. Equation of state of ideal gas from simple statistical consideration. Heat death of the universe.

**UNIT-II**

Derivation of Maxwell's thermodynamical relations and applications, cooling produced by adiabatic stretching, adiabatic compression, change of internal energy with volume. Expression for  $(C_p - C_v)$ , change of state and Clayperon Equation. Thermodynamical treatment of Joule-Thomson effect. Use of Joule-Thomson effect for liquification of helium. Production of very low temperature by adiabatic demagnetisation.

**Books Suggested :*****Essential Readings:***

1. "Statistical Physics and Thermodynamics", V.S. Bhatia, (Shoban Lal Nagin Chand, Jalandhar)
2. "A Treatise on Heat" Saha and Srivastava (Indian Press, Ahmedabad, 1972.)

***Further Readings :***

1. *Thermal Physics* by C. Kittel & H. Kroemer, CBS Pub., 1987
2. *Thermal Physics*, S.C. Garg, R.M. Bansal, and C.K. Ghosh, TMH, 2000.

**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**

*Laser Systems :* Types of lasers, Ruby and Nd : YAG lasers. He-Ne, Dye and CO<sub>2</sub> lasers – construction, mode of creating population inversion and output characteristics.

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 :***

1. *Laser Fundamentals*, W.T. Silfvast, Foundation Books.
2. *Lasers and Non-linear Optics*, B.B. Laud, Wiley Eastern Limited.
3. *A text book of Optics*, Subrahmanyam N., Lal B. and Avadhanulu, M. N., S. Chand & Co., 2012.
4. *Optical Fiber Communication*, Keiser, MH.

***Further Readings :***

1. *Lasers*, Svelto Pergmon.



**Paper-C : QUANTUM PHYSICS-II****(30 Hrs.)****UNIT-I**

Radiative transitions, selection rules and life times,

Spectrum of hydrogen atom.

Normal Zeeman effect and experiment, Degeneracy of H-atom energy levels, fine structure, Electron angular momentum, Larmor's frequency, electron spin angular momentum, Exclusion 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,  $H_2^+$  ion and  $H_2$  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 :***

1. *Concepts of Modern Physics*, A. Beiser, S. Mahajan and S. R. Choudhary, Tata McGraw Hill, 6<sup>th</sup> Edition.
2. *Quantum Physics of Atoms, Molecular*, R. Eisberg & R. Resnick, Second Edition, John Wiley, 2002.
3. *Physics for Degree Students*, C.L. Arora and P.S. Hemne, S.Chand & Co., 2014.
4. *Elements of Modern Physics*, S.H. Patil, McGraw Hill, 1998.

***Further Readings :***

1. *Fundamentals of Molecular Spectroscopy*, C.N . Banwell, T.M.H., 1972
2. *Atomic and Molecular Spectra*, Rajkumar (Kedarnath Ramnath Prakashan, Meerut).
3. *Atomic Spectra*, H.G. Kuhn, Academic Press, N.Y.

**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, 2019-2020****Scheme of Teaching and Examination****SEMESTER-III**

<b>Paper</b>	<b>Course</b>	<b>Teaching Hrs.</b>		<b>Max. Marks</b>
IX	Inorganic Chemistry-A	30	3 periods per week	22+3 internal assessment
X	Organic Chemistry-A	30	3 periods per week	22+3 internal assessment
XI	Physical Chemistry-A	30	3 periods per week	22+3 internal assessment
XII	Laboratory Practicals		6 periods per week	22+3 internal assessment
<b>Total</b>				<b>15 periods/week</b>
				<b>100</b>

**SEMESTER-IV**

<b>Paper</b>	<b>Course</b>	<b>Teaching Hrs.</b>		<b>Max. Marks</b>
XIII	Inorganic Chemistry-B	30	3 periods per week	22+3 internal assessment
XIV	Organic Chemistry-B	30	3 periods per week	22+3 internal assessment
XV	Physical Chemistry-B	30	3 periods per week	22+3 internal assessment
XVI	Laboratory Practicals		6 periods per week	22+3 internal assessment
<b>Total</b>				<b>15 periods/week</b>
				<b>100</b>

**Total Marks****SEMESTER-III- 100****SEMESTER-IV- 100**

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**200**

**CHEMISTRY****SEMESTER-III**

Paper	Course	Teaching Hrs.		Max. Marks
IX	Inorganic Chemistry-A	30	3 periods per week	22+3 internal assessment
X	Organic Chemistry-A	30	3 periods per week	22+3 internal assessment
XI	Physical Chemistry-A	30	3 periods per week	22+3 internal assessment
XII	Laboratory Practicals		6 periods per week	22+3 internal assessment
<b>Total</b>		<b>15 periods/week</b>		<b>100</b>

**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 (8 Hrs.)****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 (7 Hrs.)****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 (8 Hrs.)****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 (7 Hrs.)****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**

1. Cotton, F.A., Wilkinson, G., Gaus, P.L., Basic Inorganic Chemistry; 3<sup>rd</sup> edition, Pubs: John Wiley Sons. 1995.
2. Lee, J.D., Concise Inorganic Chemistry; 4<sup>th</sup> edition, Pubs: Chapman Hall Ltd., 1991.
3. Shriver, D.E., Alkins, P.W., Langford, C.H., Inorganic Chemistry; 4<sup>th</sup> edition, Oxford Publisher: Oxford University Press, 2006.
4. Douglas, B. McDaniell, D., Alexander, J., Concepts and Models of Inorganic Chemistry; 3<sup>rd</sup> edition, Pubs: John Wiley and Sons Inc., 1994.
5. Porterfield, W.W., Wesley, A., Inorganic Chemistry; Pubs: Addison-Wesley Publishing Company, 1984.
6. Miessler, G.L., Larr, D.A., Inorganic Chemistry; 3<sup>rd</sup> edition, Pubs: Pearson Education Inc., 2004.
7. Jolly, W.L., Modern Inorganic Chemistry; 2<sup>nd</sup> edition, Pubs: McGraw-Hill Publishing Company Limited, 1991.
8. Purcell, K.F., Kotz, J.C., Inorganic Chemistry; Pubs: W.B. Saunders Company, 1977.
9. Puri, B.R., Sharma, L.R., Kalia, K.C., Principles of Inorganic Chemistry; 30<sup>th</sup> edition, Pubs: Milestones Publisher, 2006-07.

**Paper-X: ORGANIC CHEMISTRY-A**

Hrs/Week)

**Time : 3 Hrs****Max. Marks : 22+3****60 Hrs. (2****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

Monohydric alcohols-Nomenclature, methods of formation by reduction of aldehydes, ketones, carboxylic acids and esters. Hydrogen bonding. Acidic nature. Reactions of alcohols. Dihydric and Trihydric alcohols-Nomenclature, methods of formation, chemical reactions of vicinal glycols and glycerol.

Preparation of phenols, physical properties and acidic character. Comparative acidic strengths of alcohols and phenols, resonance stabilization of phenoxide ion. Reactions of phenols-electrophilic aromatic substitution, acylation and carboxylation. Mechanisms of Fries rearrangement, Claisen rearrangement, Gatterman synthesis, and Reimer-Tiemann reaction.

**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 acetals as protecting group. Oxidation of aldehydes, Baeyer-Villiger oxidation of ketones, Cannizzaro reaction, MPV, Clemmensen, Wolff-Kishner,  $\text{LiAlH}_4$  and  $\text{NaBH}_4$  reductions.

**UNIT-IV****Carboxylic Acids:****(7 Hrs.)**

Nomenclature, structure and bonding, physical properties, acidity of carboxylic acids, effects of substitutions on acid strength. Preparations of carboxylic acids. Reactions of carboxylic acids. Hell-Volhard-Zelinsky reaction. Synthesis of acid chlorides, esters and amides, Reduction of carboxylic acids. Mechanism of decarboxylation. Methods of formation and chemical reactions of halo acids. Hydroxyl acids: Malic, tartaric and citric acids(structural features only).

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**

1. Morrison, R.T., Boyd, R.N., Organic Chemistry; 6<sup>th</sup> edition, Pubs: Prentice-Hall, 1992.
2. Wade Jr., L.G., Singh, M.S., Organic Chemistry; 6<sup>th</sup> edition, Pubs: Pearson Education, 2008.
3. Mukherji, S.M., Singh, S.P., Kapoor, R.P., Organic Chemistry; Pubs: Wiley Eastern Limited, 1985, Vol. I, II, III.
4. Solomons, T.W., Fryhle, C.B., Organic Chemistry; 9<sup>th</sup> edition, Pubs: Wiley India, 2007.
5. Carey, F.A., Organic Chemistry; 4<sup>th</sup> edition, Pubs: McGraw-Hill, 2000.
6. Streitwieser, A., Clayton, Jr., Heathcock, H., Introduction to Organic Chemistry; 3<sup>rd</sup> edition, Pubs: Macmillan Publishing Company, 1989.

**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****(8 Hrs.)****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 cholestric phases. Thermography and seven segment cell.

**UNIT-II****(7 Hrs.)****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****(8 Hrs.)****Thermodynamics-II:**

*Second Law of Thermodynamics*: Need for the law, different statements of the law, Carnot cycle and its efficiency, Carnot theorem. Thermodynamic scale of temperature.

*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**

1. Atkins, P., Paula, J.de, Atkins Physical Chemistry; 8<sup>th</sup> edition, Pubs: Oxford University Press, 2008.
2. Puri, B.R., Sharma, L.R., Pathania, M.S., Principles of Physical Chemistry; 43<sup>rd</sup> edition, Pubs: Vishal Publishing Co., 2008.
3. Barrow, G.M., Physical Chemistry; 6<sup>th</sup> edition, Pubs: McGraw Hill Companies Inc, 1996.
4. Rao, C.N.R., University General Chemistry; Pubs: Macmillan of India, 1985.
5. Berry, R.S., Rice, S.A., Ross, J., Physical Chemistry; 2<sup>nd</sup> edition, Pubs: Oxford University Press, 2000.
6. Albert, R.A., Silbey, R.J., Physical Chemistry; 1<sup>st</sup> edition, Pubs: John Wiley & Sons Inc., 1992.
7. Dogra, S.K., Dogra, S., Physical Chemistry Through Problems, Pubs: Wiley Eastern Limited, 1991.
8. Levine, I.N., Physical Chemistry; 5<sup>th</sup> edition, Pubs: Tata McGraw Hill Publishing Co. Ltd, 2002.
9. Moore, W. J., Basic Physical Chemistry; Pubs: Prentice Hall of India Pvt. Ltd, 1983.
10. Metz, C.R., Theory and problems of Physical Chemistry; Schaum's outline series, 2<sup>nd</sup> edition, Pubs: McGraw-Hall Book Company, 1989.

**Paper-XII: LABORATORY PRACTICALS****Inorganic Chemistry**

## Quantitative Analysis

## Volumetric Analysis:

- Estimation of calcium content in chalk as calcium oxalate by permanganometry.
- Estimation of hardness of water by EDTA.
- Estimation of ferrous and ferric by dichromate method.
- Estimation of copper using sodium thiosulphate

## Gravimetric Analysis

Analysis of Cu as CuSCN and Ni as Ni (dimethylglyoxime)<sub>2</sub>.

**Physical Chemistry**

## Thermochemistry:

- To determine the solubility of benzoic acid at different temperatures and to determine  $\Delta H$  of the dissolution process.
- 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)**

- Furniss, B.S., Hannaford, A.J., Rogers, V., Smith, P.W.G., Tatchell, A.R., Vogel's Text Book of Practical Organic Chemistry; 4<sup>th</sup> edition, Pubs: Longman group, 1978.
- Bansal, R.K., Laboratory Manual of Organic Chemistry; 3<sup>rd</sup> edition, Pubs:Wiley Eastern Limited, New Delhi, 1994.
- Furniss, B.S., Hannaford, A.J., Smith, P.W.G., Tatchell, A.R., Vogel's Textbook of Practical Organic Chemistry; 5<sup>th</sup> edition, Pubs: Dorling Kindersley (India) Pvt. Ltd. Delhi., 2006.
- Khosla, B.D., Garg, V.C., Gulati, A., Senior Practical Physical Chemistry; 11<sup>th</sup> edition, Pubs: R. Chand & Co., New Delhi, 2002.
- Das, R.C., Behra, B., Experimental Physical Chemistry; Pubs: Tata McGraw Hill Publishing Co. Ltd., 1983.
- Levitt, B.P., Findlays Practical Physical Chemistry; 8<sup>th</sup> edition, Pubs: Longman Group Ltd., London & New York, 1978.

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**CHEMISTRY****SEMESTER-IV**

<b>Paper</b>	<b>Course</b>	<b>Teaching Hrs.</b>		<b>Max. Marks</b>
XIII	Inorganic Chemistry-B	30	3 periods per week	22+3 internal assessment
XIV	Organic Chemistry-B	30	3 periods per week	22+3 internal assessment
XV	Physical Chemistry-B	30	3 periods per week	22+3 internal assessment
XVI	Laboratory Practicals		6 periods per week	22+3 internal assessment
<b>Total</b>		<b>15 periods/week</b>		<b>100</b>

**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:**

Use of redox potential data – analysis of redox cycle, redox stability in water – Frost, Latimer and Pourbaix diagrams. Principles involved in the extraction of the elements.

**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 NH<sub>3</sub> and liquid SO<sub>2</sub>.

**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**

1. Cotton, F.A., Wilkinson, G., Gaus, P.L., Basic Inorganic Chemistry; 3<sup>rd</sup> edition, Pubs: John Wiley Sons. 1995.
2. Lee, J.D., Concise Inorganic Chemistry; 4<sup>th</sup> edition, Pubs: Chapman Hall Ltd., 1991.
3. Shriver, D.E., Alkins, P.W., Langford, C.H., Inorganic Chemistry; 4<sup>th</sup> edition, Oxford Publisher: Oxford University Press, 2006.
4. Douglas, B. McDaniell, D., Alexander, J., Concepts and Models of Inorganic Chemistry; 3<sup>rd</sup> edition, Pubs: John Wiley and Sons Inc., 1994.
5. Porterfield, W.W., Wesley, A., Inorganic Chemistry; Pubs: Addison-Wesley Publishing Company, 1984.
6. Miessler, G.L., Larr, D.A., Inorganic Chemistry; 3<sup>rd</sup> edition, Pubs: Pearson Education Inc., 2004.
7. Jolly, W.L., Modern Inorganic Chemistry; 2<sup>nd</sup> edition, Pubs: McGraw-Hill Publishing Company Limited, 1991.
8. Purcell, K.F., Kotz, J.C., Inorganic Chemistry; Pubs: W.B. Saunders Company, 1977.
9. Puri, B.R., Sharma, L.R., Kalia, K.C., Principles of Inorganic Chemistry; 30<sup>th</sup> edition, Pubs: Milestones Publisher, 2006-07.

**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:**

Structure and nomenclature of acid chlorides, esters, amides and acid anhydrides. Relative stability & reactivity of acyl derivatives. Physical properties, interconversion of acid derivatives by nucleophilic acyl substitution.

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:**

Preparation of nitroalkanes and nitroarenes. Chemical reactions of nitroalkanes. Mechanisms of nucleophilic substitution in nitroarenes and their reductions in acidic, neutral and alkaline media. Picric acid.

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 catalysis. Preparation of alkyl and aryl amines (reduction of nitro compounds, nitriles), reductive amination of aldehydic and ketonic compounds. Gabriel-phthalimide reaction, Hofmann bromamide reaction.

**UNIT-IV****Heterocyclic Compounds:****(7 Hrs.)**

Introduction: Molecular Orbital picture and aromatic character of pyrrole, furan, thiophene, pyridine. Methods of synthesis and chemical reactions with particular emphasis on the mechanism of electrophilic substitution. Mechanism of nucleophilic substitution reactions in pyridine derivatives. Comparison of basicity of pyridine, piperidine and pyrrole.

Introduction to condensed-five and six-membered heterocycles. Preparation and reactions of indole, quinoline and isoquinoline with special reference to Fisher indole synthesis. Skraup synthesis and Bischler-Napieralski synthesis. Mechanism of electrophilic substitution reactions of indole, quinoline and isoquinoline.

**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**

1. Morrison, R.T., Boyd, R.N., Organic Chemistry; 6<sup>th</sup> edition, Pubs: Prentice-Hall, 1992.
2. Wade Jr., L.G., Singh, M.S., Organic Chemistry; 6<sup>th</sup> edition, Pubs: Pearson Education, 2008.
3. Mukherji, S.M., Singh, S.P., Kapoor, R.P., Organic Chemistry; Pubs: Wiley Eastern Limited, 1985, Vol. I, II, III.
4. Solomons, T.W., Fryhle, C.B., Organic Chemistry; 9<sup>th</sup> edition, Pubs: Wiley India, 2007.
5. Carey, F.A., Organic Chemistry; 4<sup>th</sup> edition, Pubs: McGraw-Hill, 2000.
6. Streitwieser, A., Clayton, Jr., Heathcock, H., Introduction to Organic Chemistry; 3<sup>rd</sup> edition, Pubs: Macmillan Publishing Company, 1989.

**Paper-XV: PHYSICAL 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.)****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<sub>2</sub> 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<sub>2</sub>O) system. Freezing mixtures, acetone-dry ice.

Partially Miscible Liquids –Phenol-water, trimethylamine – water, nicotine –water systems.

Nernst distribution law-thermodynamic derivation, applications.

**UNIT-II****(7 Hrs.)****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****(8 Hrs.)****Electrochemistry-II:**

Types of reversible electrodes – gas metal – ion, metal –insoluble salt – anion and redox electrodes. Electrode reactions, Nernst equation, derivation of cell E.M.F. and single electrode potential, standard hydrogen electrode – reference electrodes – standard electrode potential, sign conventions, electrochemical series and its significance.

**UNIT-IV****(7 Hrs.)**

Electrolytic and Galvanic cells – reversible and irreversible cells, conventional representation of electrochemical cells.

E.M.F. of a cell and its measurements. Computation of cell E.M.F. Calculation of thermodynamic quantities of cell reactions ( $\Delta G$ ,  $\Delta H$  and  $K$ ), Polarization, over potential and hydrogen overvoltage.

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**

1. Atkins, P., Paula, J.de, Atkins Physical Chemistry; 8<sup>th</sup> edition, Pubs: Oxford University Press, 2008.
2. Puri, B.R., Sharma, L.R., Pathania, M.S., Principles of Physical Chemistry; 43<sup>rd</sup> edition, Pubs: Vishal Publishing Co., 2008.
3. Barrow, G.M., Physical Chemistry; 6<sup>th</sup> edition, Pubs: McGraw Hill Companies Inc, 1996.
4. Rao, C.N.R., University General Chemistry; Pubs: Macmillan of India, 1985.
5. Berry, R.S., Rice, S.A., Ross, J., Physical Chemistry; 2<sup>nd</sup> edition, Pubs: Oxford University Press, 2000.
6. Albert, R.A., Silbey, R.J., Physical Chemistry; 1<sup>st</sup> edition, Pubs: John Wiley & Sons Inc., 1992.
7. Dogra, S.K., Dogra, S., Physical Chemistry Through Problems, Pubs: Wiley Eastern Limited, 1991.
8. Levine, I.N., Physical Chemistry; 5<sup>th</sup> edition, Pubs: Tata McGraw Hill Publishing Co. Ltd, 2002.
9. Moore, W. J., Basic Physical Chemistry; Pubs: Prentice Hall of India Pvt. Ltd, 1983.
10. Metz, C.R., Theory and problems of Physical Chemistry; Schaum's outline series, 2<sup>nd</sup> edition, Pubs: McGraw-Hall Book Company, 1989.

**Paper-XVI LABORATORY PRACTICALS****Max. Marks: 22+3  
6 Periods/week****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)**

1. Furniss, B.S., Hannaford, A.J., Rogers, V., Smith, P.W.G., Tatchell, A.R., Vogel's Text Book of Practical Organic Chemistry; 4<sup>th</sup> edition, Pubs: Longman group, 1978.
2. Bansal, R.K., Laboratory Manual of Organic Chemistry; 3<sup>rd</sup> edition, Pubs : Wiley Eastern Limited, New Delhi, 1994.
3. Furniss, B.S., Hannaford, A.J., Smith, P.W.G., Tatchell, A.R., Vogel's Textbook of Practical Organic Chemistry; 5<sup>th</sup> edition, Pubs: Dorling Kindersley (India) Pvt. Ltd. Delhi., 2006.
4. Khosla, B.D., Garg, V.C., Gulati, A., Senior Practical Physical Chemistry; 11<sup>th</sup> edition, Pubs: R.Chand & Co., New Delhi, 2002.
5. Das, R.C., Behra, B., Experimental Physical Chemistry; Pubs: Tata McGraw Hill Publishing Co. Ltd., 1983.
6. Levitt, B.P., Findlays Practical Physical Chemistry; 8<sup>th</sup> edition, Pubs: Longman Group Ltd., London & New York, 1978.

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**BOTANY****B.Sc. (GENERAL) SECOND YEAR (3<sup>rd</sup> and 4<sup>th</sup> Semester) EXAMINATION, 2019-2020**

<b>Third Semester</b>		<b>Time</b>	<b>Theory</b>	<b>Int Assess.</b>	<b>Max Marks</b>
<b>Theory Paper-A:</b>	Diversity of Seed Plants and their Systematics-I	<b>3 hrs.</b>	<b>36</b>	<b>04</b>	<b>40</b>
<b>Theory Paper-B:</b>	Structure, Development and Reproduction in Flowering Plants-I	<b>3 hrs</b>	<b>36</b>	<b>04</b>	<b>40</b>
One practical pertaining to entire syllabus included in both theory papers		3 hrs.	18	02	20
<b>Fourth Semester</b>					
Theory Paper-A:	Diversity of Seed Plants and their Systematics-II	3 hrs.	36	04	40
Theory Paper-B:	Structure, Development and Reproduction in Flowering Plants-II	3 hrs	36	04	40
One practical pertaining to entire syllabus included in both theory papers		3 hrs.	18	02	20
<b>Total</b>					<b>200</b>

**Note:**

- The number of teaching hours for theory and practical per semester shall be 60 hrs. and 100 hrs. respectively.
- There will be a two theory papers (A & B) in each semester. Each paper will consist of 9 questions. Question No. 1 will be compulsory and will consist of 8 parts (one mark each) comprising 4 MCQ and the rest 4 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 8 marks and the rest of 8 questions will be of 7 marks each.



**BOTANY****B.Sc.(General) Third Semester (Examination December, 2019)****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 : Geological time Scale, 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:**

1. Bhatnagar, S.P. and Moitra, A. Gymnosperms, New Age International Limited, New Delhi, 1996.
2. Chopra, G.L. Text book of Gymnosperms, S. Nagin, Delhi, 1976.
3. Dhand, N. Systematics of Spermatophyta. Trueman Publications, Jalandhar, 2012
4. Pandey, B.P. College Botany, Vol. II. S. Chand & Company Ltd., New Delhi, 1994.
5. Singh, V., Pande, P.C. and Jain, D.K. A Text Book of Botany: Diversity and Systematics of Seed Plants, Rastogi Publications, Meerut, 2013.
6. Sporne, K.R. The Morphology of Gymnosperms, Hutchinson & Co (Publishers) Ltd., London, 1965.
7. Srivastava, H.N. Diversity of Seed Plants and their Systematics, Vol. III. Pradeep Publications, Jalandhar, 2014.

**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 Readings :**

1. Bhojwani, S.S. and Bhatnagar, S.P. The Embryology of Angiosperms, 5<sup>th</sup> edition. Vikas Publishing House Pvt. Ltd., Delhi, 2009.
2. Goyal J.P. and Saini, A. Angiosperms: Structure Development and Reproduction, Trueman Book Co. Jalandhar & New Delhi, 2006.
3. Pandey, S.N., Chadha, A. Plant Anatomy and Embryology, Vikas Publishing House Pvt. Ltd., Delhi, 1996.
4. Singh, V. Plant Anatomy and Embryology of Angiosperms, Global Media Publications, Delhi 2010.
5. Singh, V., Pande, P.C. and Jain, D.K. A Text Book of Botany: Structure Development and Reproduction in Angiosperms, Rastogi Publications, Meerut, 2013.
6. Srivastava, H.N. Structure, Development and Reproduction in Flowering Plants, Vol. IV. Pradeep Publications, Jalandhar, 2014.

**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 **root, stem and leaf**.
5. Study through preparation of permanent slides :
  - i) V.S. dicot leaf
  - ii) V.S. monocot leaf

**Guidelines for Botany Practical Examination:**

<b>Max. Marks:</b>	<b>20</b>
<b>Practical:</b>	<b>18</b>
<b>Int. Assessment:</b>	<b>2</b>
<b>Time:</b>	<b>3 hours</b>

- |    |  |       |
|----|--|-------|
| 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 root/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 |

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**BOTANY****B.Sc. (GENERAL) Fourth Semester (Examination May, 2020)****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) :

Liliaceae	:	<i>Asphodelus/Asparagus</i>
Gramineae (Poaceae)	:	<i>Triticum</i>
Ranunculaceae	:	<i>Ranunculus</i> and <i>Delphinium</i>
Brassicaceae	:	<i>Brassica</i>

**UNIT-III**

General account and diagnostic features of the following families (excluding economic importance):

Rutaceae	:	<i>Citrus</i> and <i>Murraya</i>
Malvaceae	:	<i>Hibiscus</i>
Fabaceae	:	<i>Lathyrus</i> , <i>Cassia</i> and <i>Acacia</i>
Umbelliferae (Apiaceae)	:	<i>Coriandrum</i>

**UNIT-IV**

General account and diagnostic features of the following families (excluding economic importance) :

Compositae (Asteraceae)	:	<i>Helianthus/Ageratum</i>
Asclepiadaceae	:	<i>Calotropis</i>
Solanaceae	:	<i>Solanum</i> and <i>Petunia</i>
Labiatae (Lamiaceae)	:	<i>Ocimum</i>
Chenopodiaceae	:	<i>Chenopodium</i>

**Suggested Readings:**

1. Chopra, G.L. Angiosperms: Systematic and Life Cycle, Pradeep Publications, Jalandhar, 1987.
2. Dhand, N. Systematics of Spermatophyta, Trueman Publications, Jalandhar, 2012.
3. Maheshwari, J.K. Flora of Delhi, CSIR, New Delhi, 1963.
4. Singh, G. Plant Systematics: Theory and Practice, Oxford and IBH Pvt. Ltd., New Delhi, 1999.
5. Singh, V., Pande, P.C. and Jain, D.K. A Text Book of Botany: Diversity and Systematics of Seed Plants, Rastogi Publications, Meerut, 2013.
6. Srivastava, H.N. Diversity of Seed Plants and their Systematics, Vol. III, Pradeep Publications, Jalandhar, 2006.
7. Vasishta, P.C. Taxonomy of Angiosperms. R. Chand & Co., New Delhi, 1997.

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**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:**

1. Esau, K. Anatomy of Seed Plants, 2<sup>nd</sup> edition, John Wiley & Sons, New York, 1977.
2. Fahh, A. Plant Anatomy, 2<sup>nd</sup> Edition, Pergamon Press, Oxford, 1974.
3. Goyal J.P. and Saini, A. Angiosperms: Structure Development and Reproduction, Trueman Book Co. Jalandhar & New Delhi, 2006.
4. Singh, V. Pande, P.C. and Jain, D.K. A Text book of Botany: Structure Development and Reproduction in Angiosperms, Rastogi Publications, Meerut, 2013.
5. Srivastava, H.N.. Structure, Development and Reproduction in Flowering Plants, Vol. IV. Pradeep Publications, Jalandhar, 2014.
6. Vasishta, P.C. A Text book of Plant Anatomy, S. Nagin & Co., Delhi, 1979.

**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

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**ZOOLOGY****B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-III**

<b>Paper I</b>	: Biodiversity (Chordates) & Evolution-I	40	(36+ 4) marks
<b>Paper II</b>	: Biochemistry & Physiology-I	40	(36 + 4) marks
<b>Practical</b>	(Covering the entire syllabus) of 4 hours duration	20	(18+ 2) marks
<b>Total :</b>			<b>100 marks</b>

**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, Echeineis* 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 :

Amphibia : *Uraeotyphlus, Necturus, Amphiuma, Amblystoma* and its Axolotl Larva, *Triton, Salamandra, Hyla, Rhacophorus*.

**UNIT-IV**

Concept and evidences of organic evolution.

Theories of organic evolution.

Origin of life.

**Suggested Readings**

1. Parker, T.J. and Haswell, W.A : Text Book of Zoology, Vol. II (Vertebrates), ELBS and Macmillan Press Ltd., 1981.
2. Dobzhansky, T., Ayala, F.J., Stebbins, G.L. and Valentine, J.W. : Evolution, WH Freeman, 1952.
3. Colbert, E.H. : Evolution of Vertebrates, IInd edition, Wiley Eastern Ltd., 1989.

4. Dhami, P.S. and Dhami, J.K. : Vertebrates, R. Chand & Co., New Delhi, 1998.
5. Bhamrah, H.S. and Juneka, K. : Cytogenetics & Evolution, Anmol Publication Pvt. Ltd., 1993.

## 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**

1. Taneja, S.K. : Biochemistry & Animal Physiology, Trueman Book Co.,1997.
2. Guyton, A.S. : Text Book of Medical Physiology, 7<sup>th</sup> edition, W.B. Saunders Company, 1994.
3. Robert, K., Murray, R.K., Daryl, M., Granner, K., Victor, W. and Woodwell. : Harper's Biochemistry, 22<sup>nd</sup> edition, Prentice – Hall International, Inc.,1990
4. Nelson, D.L. and Cox, M.M. : Lehninger Principles of Biochemistry, 5<sup>th</sup> edition, W.H., Freeman and Company, New York, 2008.

**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	:	<i>Herdmania, Molgula, Pyrosoma, Doliolum, Salpa &amp; Oikopleura.</i>
Cephalochordata	:	<i>Amphioxus.</i>
Cyclostomata	:	<i>Myxine, Petromyzon &amp; Ammocoetes Larva.</i>
Chondrinchthyes	:	<i>Zygaena (Hammer headed shark), Pristis (Saw fish), Narcine (Electric ray), Trygon, Rhinobatus and Chimaera (Rabbit fish).</i>
Actinoptergii	:	<i>Polypterus, Acipenser, Lepisosteus, Muraena, Mystus, Catla, Hippocampus, Syngnathus, Exocoetus, Anabas, Diodon, Tetradon, cheneis and Solea.</i>
Dipneusti (Dipnoi)	:	<i>Protopterus</i>
Amphibia	:	<i>Uraeotyphlus, Necturus, Amphiuma, Ambystoma and its Axolotl larva, Triton, Salamandra, Hyla, Rhacophorus.</i>
2. Demonstrate the dissection of following animals through video clipping, charts, models etc.
 

<i>Herdmania</i>	:	General anatomy
<i>Labeo</i>	:	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)

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**ZOOLOGY****B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020  
SEMESTER-IV**

<b>Paper I:</b> Biodiversity (Chordates) & Evolution – II	40 (36 + 4) marks
<b>Paper II :</b> Biochemistry & Animal Physiology-II	40 (36 + 4) marks
<b>Practical</b> (Covering the entire syllabus) of 4 hours duration	20 (18 +2) marks
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<b>Total :</b>	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, Sea-shores, 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- 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 *Casuaris*.

**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**

1. Parker, T.J. and Haswell, W.A. : Text Book of Zoology, Vol. II (Vertebrates), ELBS and Macmillan Press Ltd., 1981.
2. Dobzhansky, T., Ayala, F.J., Stebbins, G.L. and Valentine, J.W. : Evolution, WH Freeman, 1952.
3. Colbert, E.H. : Evolution of Vertebrates, IInd edition, Wiley Eastern Ltd., 1989.
4. Dhama, P.S. and Dhama, J.K. : Vertebrates, R. Chand & Co., New Delhi, 1998.
5. Bhamrah, H.S. and Juneka, K. : Cytogenetics & Evolution, Anmol Publication Pvt.Ltd., 1993.

**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**

1. Taneja, S.K. : Biochemistry & Animal Physiology, Trueman Book Co.,1997.
2. Guyton, A.S. : Text Book of Medical Physiology, 7<sup>th</sup> edition, W.B. Saunders Company, 1994.
3. Robert, K., Murray, R.K., Daryl, M., Granner, K., Victor, W. and Woodwell. : Harper's Biochemistry, 22<sup>nd</sup> edition, Prentice – Hall International, Inc.,1990
4. Nelson, D.L. and Cox, M.M. : Lehninger Principles of Biochemistry, 5<sup>th</sup> edition, W.H., Freeman and Company, New York, 2008.

**PRACTICALS : Practical based on Theory Papers ZOO 401 & 402 (ZOO 252)**

- Classification up to orders habits, habitats, distinctive characters and economic importance(if any) of the following animals :
 

Reptilia	:	<i>Chelone</i> (Turtle) and <i>Testudo</i> (Tortoise), <i>Hemidactylus</i> , <i>Calotes</i> , <i>Draco</i> , <i>Varanus</i> , <i>Phrynosoma</i> , <i>Chamaeleon</i> , <i>Typhlops</i> , <i>Python</i> , <i>Eryx</i> , <i>Ptyas</i> , <i>Bungarus</i> , <i>Naja</i> , <i>Hydrus</i> , <i>Vipera</i> , <i>Crocodilus</i> , <i>Gavialis</i> .
Aves	:	<i>Casuaris</i> , <i>Ardea</i> , <i>Anas</i> , <i>Milvus</i> , <i>Pavo</i> , <i>Eudynamis</i> , <i>Tyto</i> and <i>Alcedo</i> .
Mammalia	:	<i>Ornithorhynchus</i> , <i>Echidna</i> , <i>Didelphis</i> , <i>Macropus</i> , <i>Loris</i> , <i>Macaca</i> , <i>Manis</i> , <i>Hystrix</i> , <i>Funambulus</i> , <i>Panthera</i> , <i>Canis</i> , <i>Herpestes</i> , <i>Capra</i> , <i>Pteropus</i> .
- 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.
- Study of the skeleton of *Varanus*, *Gallus* and Rat/ *Oryctolagus* (Rabbit).
- Study of the following prepared slides :
 

Histology of rat/rabbit (compound tissues)
- Study of blood smear of a mammal.
- Identification of food stuffs:starch, glucose, proteins and fats in solution.
- Demonstration of osmosis and diffusion.
- Analysis of urine for urea, chloride, glucose and uric acid.
- An idea of location of endocrine glands in mammals through charts / models/ video clippings
- 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**

Max. Marks	:	20
Practical Exam.	:	18 marks
Internal Assessment	:	2 marks
Time	:	3 hours

- Draw a labeled sketch of -----system of given animal and explain it to the examiner. (2)
- Identify the given bones A & B. Make labelled sketches of their respective \_\_\_\_\_views. (2)
- Minor experiment of physiology related to blood /osmosis /diffusion. (1½)
- 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)
- Identify the slides D & E giving two reasons for each identification. (2)
- 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)
- Viva-voce. (2)
- Note book and Project Report. (2)

**BIOCHEMISTRY****B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020****SEMESTER-III****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****Marks: 45+5**

**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)**

beta-Oxidation of fatty acids including odd chain fatty acids. Alpha and omega oxidation of fatty acids. Formation and utilization of ketone bodies. Biosynthesis of saturated and unsaturated fatty acids.

**SECTION-IV****(Lectures 7)**

Biosynthesis and degradation of phospholipids and triglycerides. Cholesterol biosynthetic pathway. Biosynthesis of cerebroside; sulfatides and gangliosides. Biosynthesis of prostaglandins, thromboxanes, leukotrienes, lipoxins and prostacyclins.

**Books:**

1. Biochemistry by Lubert Stryer, Ed. 7<sup>th</sup> 2013, W.F. Freeman and Co., New York.
2. Lippincott's Illustrated Reviews: Biochemistry by P.C. Champe, R.A. Harvey & D.R. Ferrier, Indian Edition, 2005.
3. Harper's Illustrated Biochemistry by R.K. Murray, P.A. Mayes, D.K. Granner and V.W. Rodwell, 29<sup>th</sup> Ed. 2012, Prentice Hall International Ltd. (U.K.).
4. Voet D and Voet JG. Biochemistry 4<sup>th</sup> Edition, John Wiley and Sons Inc., 2011.

**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)**

Digestion & absorption of proteins, nitrogen balance, general reactions of amino acids: deamination, transamination and decarboxylation. Urea cycle.

**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****( Lectures7)**

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:**

1. Biochemistry by Lubert Stryer, Ed.7<sup>th</sup> 2013, W.F. Freeman and Co., New York.
2. Lippincott's Illustrated Reviews: Biochemistry by P.C.Champe, R.A. Harvey & D.R. Ferrier, Indian Edition, 2005.
3. Harper's Illustrated Biochemistry by R.K. Murray, P.A. Mayes, D.K. Granner and V.W. Rodwell, 29<sup>th</sup> Ed. 2012, Prentice Hall International Ltd. (U.K.).
4. Voet D and Voet JG. Biochemistry 4<sup>th</sup> Edition, John Wiley and Sons Inc., 2011.

**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  $\text{Ca}^{2+}$  in serum.
6. Estimation of total cholesterol in serum.
7. Estimation of total lipids in serum by Vanillin method.
8. Estimation of pyruvic acid.
9. Estimation of creatinine
10. Colorimetric estimation of inorganic phosphate

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**BIOCHEMISTRY****B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2019-2020  
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****Radio isotopic techniques:****(Lectures: 10)**

Nature of isotopes and radioisotopes. Radioactive decay. Properties of radioactive emissions. Units of radioactivity. Techniques used to measure radioactivity; GM counter and liquid scintillation counting and gamma counter. Labelling of biochemical compounds and autoradiography. Use of radioactive tracers in the study of enzyme reaction mechanisms and metabolic pathways. Radioimmuno assay. Biological hazards of radiation and safety measures in handling radioisotopes.

**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:**

1. Biochemical Techniques – Theory and Practice by John. F. Robyt and Bernard J. White Cole Publishing Co. (U.S.A.).
2. Physical Biochemistry: Application to Biochemistry and Molecular Biology by David Freifelder W.H. Freeman and Company (U.S.A.).
3. A Biologist's Guide to Principles and Techniques of Practical Biochemistry by K.H. Goulding and Keith Wilson, Edward Arnold (U.K.), Ltd.

**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)**

**Introduction:** membrane structure and organization: physical and biological models of membranes structure. Protein- lipid interactions in membranes, fluid mosaic model of membrane structure, its merits and demerits. Constituents of biological membranes in prokaryotes and eukaryotes. Asymmetry of biomembranes. Structure of RBC membrane.

**SECTION –II****( Lectures 7)**

**Membrane dynamics:** Physical properties of membrane lipids, membrane fluidity, Phase transitions, cytological biochemical probes and methods to study membrane fluids. Membrane transport: Typical properties of membrane transport, passive diffusion, facilitative diffusion, Carrier mediated active transport. Role of Na, K- ATPase, Ca-ATPase & H<sup>+</sup>-ATPase. Ionophores and siderophores, structure and functions.

**SECTION –III****( Lectures 8)**

**Membrane analysis:** isolation and characterization of cell membrane, criteria of membrane purity. Solubilization of membranes and their reconstitution. Labeling of membrane probes and determination of transbilayer distribution of membrane components. Liposomes: unilamellar and multilamellar vesicles. Methods of their preparation, characterization and their applications in targeting drugs and gene therapy.

**SECTION –IV****( Lectures 8)**

**Biogenesis and turnover of membranes:** Synthesis of membrane components and their trafficking, signal hypothesis, coated vesicles. Regulation and coordination of membrane component synthesis. Membrane disorders: erythrocyte deformities, transport disorders. Disorders of membrane lipids

**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, Benjamin Cummings, 1985
3. Jones MN & Chapman D. Micelles monolayers and biomembranes, Wiley-Lis New York, 1995
4. Lodish H. Molecular Cell biology, WH Freeman and Company, 2013
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 (3<sup>rd</sup> and 4<sup>th</sup> Semester) EXAMINATION, 2019-2020**

- 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**

Scheme of Examination	Duration	Marks
<b>THEORY</b>	<b>6 hrs</b>	<b>75 (33+33+9*)</b>
<b>MIC 301: Introduction to Medical Microbiology-I</b>	3 hrs.	37.5 (33+4.5*)
<b>MIC 302 : Introductory Immunology – I</b>	3 hrs.	37.5 (33+4.5*)
<b>PRACTICAL</b>		
One Practical examination pertaining to the entire syllabus included in Theory Papers MIC 301 and MIC 302	3 hrs	25 (22+3*)

**Semester IV**

<b>THEORY</b>	<b>6 hrs</b>	<b>75 (33+33+9*)</b>
<b>MIC 401: Introduction to Medical Microbiology-II</b>	3 hrs.	37.5 (33+4.5*)
<b>MIC 402 : Introductory Immunology –II</b>	3 hrs.	37.5 (33+4.5*)
<b>PRACTICAL</b>		
One Practical examination pertaining to the entire syllabus included in Theory Papers MIC 401 and MIC 402	3 hrs	25 (22+3*)

*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 :**

1. Bergey's Manual of Systematic Bacteriology. Vol-I (2001), The Archae and the Deeply Branching Phototrophic Bacteria, David, R. Boone and Richard, W. Castenholz (author) George Garrity (editor).
2. Prescott, L.M., Harley, J.P., Klein, D.A. (2002), Microbiology, Mc Graw Hill.
3. Tortora, G.J., Funke, B.R., Case C.L (2004), Microbiology, An Introduction, Pearson Education.
4. Mims, C., Playfair J., Roitt I., Wakelin D., Williams R., (2000), Medical Microbiology , Mosby, London, St. Louis.

**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 :**

1. T.J. Kindt, R.A.G.B.A. Osborne, J. Kuby (2006), Immunology, W.H. Freeman and Company, USA.
2. N.Shetty (2005), Immunology, Introductory Text Book, New Age International (P.) Limited, (Formerly Wiky Eastern Limited).
3. Paul, W.E (2008), Fundamental Immunology, Lippincott Williams & Wilkins.
4. Roitt, I.M., Brostoff, J., Male D.K. (2001), Immunology, Illustrated Publishers, Mosby.
5. Lydyard, P.M., Whelan, A., Fanger, M.W. (2003), Instant Notes in Immunology, Viva Books Private Limited.
6. Kannan, I. (2007), Immunology, M.J.P. Publishers.
7. Hannigan, B.M. (2008), Immunology, Viva Books Private Limited.

**MICROBIOLOGY**  
**PRACTICAL**  
**B.Sc. (GENERAL) SECOND YEAR EXAMINATION**  
**Semester-III**

**MAX. MARKS: 25 MARKS**  
**PRACTICAL: 22 MARKS**  
**INTERNAL ASSESSMENT: 3 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

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**MICROBIOLOGY**  
**B.Sc. (GENERAL) SECOND YEAR EXAMINATION**  
**MIC 401 : INTRODUCTION TO MEDICAL MICROBIOLOGY-II**

**Semester IV**

**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 :**

1. Bergey's Manual of Systematic Bacteriology. Vol-I (2001), The Archae and the Deeply Branching Phototrophic Bacteria, David, R. Boone and Richard, W. Castenholz (author) George Garrity (editor).
2. Prescott, L.M., Harley, J.P., Klein, D.A. (2002), Microbiology, Mc Graw Hill.
3. Tortora, G.J., Funke, B.R., Case C.L (2004), Microbiology, An Introduction, Pearson Education.
4. Mims, C., Playfair J., Roitt I., Wakelin D., Williams R., (2000), Medical Microbiology , Mosby, London, St. Louis.

**MICROBIOLOGY**  
**B.Sc. (GENERAL) SECOND YEAR EXAMINATION**  
**MIC 402 : INTRODUCTORY IMMUNOLOGY-II**

**Semester IV**

**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 :**

1. T.J. Kindt, R.A.G.B.A. Osborne, J. Kuby (2006), Immunology, W.H. Freeman and Company, USA.
2. N.Shetty (2005), Immunology, Introductory Text Book, New Age International (P.) Limited, (Formerly Wiky Eastern Limited).
3. Paul, W.E (2008), Fundamental Immunology, Lippincott Williams & Wilkins.
4. Roitt, I.M., Brostoff, J., Male D.K. (2001), Immunology, Illustrated Publishers, Mosby.
5. Lydyard, P.M., Whelan, A., Fanger, M.W. (2003), Instant Notes in Immunology, Viva Books Private Limited.
6. Kannan, I. (2007), Immunology, M.J.P. Publishers.
7. Hannigan, B.M. (2008), Immunology, Viva Books Private Limited.

**MICROBIOLOGY**  
**PRACTICAL**  
**B.Sc. (GENERAL) SECOND YEAR EXAMINATION**  
**Semester - IV**

**MAX. MARKS: 25 MARKS**  
**PRACTICAL: 22 MARKS**  
**INTERNAL ASSESSMENT: 3 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

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**ELECTRONICS**  
**(KEPT IN ABEYANCE)**

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**AGRICULTURE****B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATIONS, 2019-2020****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 :**

1. Agriculture Engineering Vol.I and Vol. II, A. M. Michae, T.P. Ojha, 2006, Jain Brothers, New Delhi.
2. Mushroom Growing, 1997, H. S. Garcha, P. A. U., Ludhiana.
3. Hand Book of Agriculture, 2008, ICAR, New Delhi.
4. Farm Machinery, An Approach, S.C. Jain and Grace Philips, 2006, Standard Publishers, Distributors, New Delhi.
5. Fundamentals of Dairy Chemistry, Wong, Jenness, Keeney and Marth, 1998, CBS Publishers and Distributors, New Delhi.
6. Milk and Milk Products, Clarence Henry Eckles, Willes Barnes Combs and Harold Macy, Delhi, 2006, Tata McGraw Hill Publishing Company Limited, New Delhi.
7. Introduction to Plant Biotechnology, H. S. Chawla, 2008, Oxford and IBH Publishing Company Pvt. Ltd., New Delhi 2.
8. Plant Biotechnology, B. D. Singh, 2009, Kalyani Publishers, Ludhiana.
9. Aquarium and Fish Keeping, C. B. L. Srivastava, 2006, Kitab Mahal Allahabad.
10. Medicinal Plants of India, R. Zafar, 2006, CBS Publishers and Distributors, New Delhi.
11. Spices and Condiments, J. S. Pruthi, 2008, National Book Trust, New Delhi.

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**AGRICULTURE****B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATIONS, 2019-2020  
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 question 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 :**

1. Principles of Agronomy, T. Yellamanda Reddy and G. H. Sankara Reddy, 2008, Kalyani Publishers, Ludhiana.
2. Statistical Methods for Agricultural Workers, V.G. Panse and P.V. Sukhatme, 1997, ICAR, New Delhi.
3. Modern Techniques for Raising Field Crops, Chidda Singh, Prem Singh and Rajbir Singh, 2009, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
4. Vegetable Crops of India, P.C. Das, 1998, Kalyani Publishers, Ludhiana.
5. Potato Cultivation, 1998, Nandpuri and Kumar, P.A.U., Ludhiana.

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**HOME SCIENCE****B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2019-20  
SEMESTER- III****Scheme of Examination**

<b>Theory</b>						<b>Practical</b>				
<i>Sr. No.</i>	<i>Name of Paper</i>	<i>No. of Papers</i>	<i>Time in hrs.</i>	<i>Marks allotted</i>	<i>Int. Ass.</i>	<i>No. of Papers</i>	<i>Time in hrs.</i>	<i>Marks Allotted</i>	<i>Int. Ass.</i>	<i>Total Marks</i>
1.	Clothing & Textiles	1	3	45	05	1	3	45	05	100
<b>Total :</b>										<b>100</b>

*Note* : 1. Each Practical group will have 12-15 students.

**SEMESTER-III****CLOTHING & TEXTILE (THEORY)**

<b>Max. Marks</b>	<b>: 50</b>
<b>Theory</b>	<b>: 45</b>
<b>Int. Ass.</b>	<b>: 05</b>
<b>Hours</b>	<b>: 6 Hours per week</b>

**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.

- Note:
1. Internal assessment should be based on: Assignment/test/Seminars & Attendance for Theory & Practical.
  2. Practical examination will be held before the final Theory Exams.
  3. Practical group should have 12-15 students.

### 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.
2. Preparation of fabric for construction- shrinking and straightening.
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 : 45**  
**Internal Assessment: 05**  
**Time : 6 Hours per 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.

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**HOME SCIENCE****B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION,2019-20  
SEMESTER- IV****SEMESTER-IV**

<b>Scheme of Examination</b>										
<b>Theory</b>						<b>Practical</b>				
<i>Sr. No.</i>	<i>Name of Paper</i>	<i>No. of Papers</i>	<i>Time in hrs.</i>	<i>Marks allotted</i>	<i>Int. Ass.</i>	<i>No. of Papers</i>	<i>Time in hrs.</i>	<i>Marks Allotted</i>	<i>Int. Ass.</i>	<i>Total Marks</i>
1.	Clothing & Textile	1	3	45	05	1	3	45	05	100
<b>Total :</b>										<b>100</b>

*Note* : 1. Each Practical group will have 12-15 students.

**SEMESTER-IV****CLOTHING & TEXTILE (THEORY)**

<b>Max. Marks</b>	<b>: 50</b>
<b>Theory</b>	<b>: 45</b>
<b>Int. Ass.</b>	<b>: 05</b>
<b>Hours</b>	<b>: 6 Hours per week</b>

**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.
2. Finishing- types & importance. Different Finishes- Sizing, Desizing, Calendering, Sanforising, Mercerization, Crease resistant, Water proof & Water repellent, Flame resistant & Flame proof.

**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
3. Methods of Laundry/Washing.

**(SEMESTER-IV)****CLOTHING & TEXTILE (PRACTICAL)**

**Maximum Marks : 50**  
**Paper : 45**  
**Internal Assessment: 05**  
**Time : 6 Hours per 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 :**

1. Singer Sewing Book, Mary Brocks Bichen, McGraw Hill Book Company, Inc., New York, Toronto, London, 1953.
2. Basic Processes & Clothing Construction, Sherie Doongaji & Raushni Deshpande, Raaj Prakashan, New Delhi (Fourth Revised edition).
3. Pattern Drafting Vol. III, Dress Making, Kamakura—Shobo Publishing Co. Ltd., Tokyo, Japan, 1972 (Fifth Edition).
4. A Manual of Children Clothing, Savitri Pandit, Orient Longmans Ltd., Bombay, 1967.
5. Practical Dress Design, Principles of Fitting and Pattern Making, Mabel D. Erwin, The Macmillan Company, New York, Ninth Printing, 1966.
6. Indian Embroidery, Its Variegated Charms, Savitri Pandit, Faculty of Home Sciences, Baroda, 1976, First Edition.
7. The Basic Book of Sewing, Eve Harlow Pub. Octopids Books Ltd., London.
8. Simple Dress Making 2, Maureen Guddsworthy Pub. Mills & Boon Ltd., London.
9. Encyclopaedia of Dress Making, Pub. Marshall Caven Dish Books Ltd., London.
10. Textile Fabrics and their Selection, Isable B. Wingate Prentice Hall, Inc., Englewood Cliffs, N.J., 1970.
11. Fundamentals of Textiles and their Care, Susheela Dantyagi, Orient Longmans, Bombay, Calcutta, Madras, New Delhi, Reprinted, 1968.
12. Household Textiles and Laundry Work, Durga Deulkar, Atma Ram & Sons, New Delhi, 1973.
13. Ideas for Fabric Printing and Dyeing Gooch, Peter H. Charles Cribner's, New York, 1974.
14. Encyclopaedia of Textiles, Fabrics, Grayson Martin, John Wiley, New York, 1984.
15. Tie-Dyed Textiles of India—Veronica Murphy & Rosemary Crill, Pub. Mapiu Publishing Pvt. Ltd., Ahmedabad.
16. Fashion and Textile Design, Neelima.
17. Printing and Washing of Textile, Neelima
18. Handbook of Fashion and Textile Designing, R. K. Sahu.
19. Traditional Embroidery of India, Shailajan D. Naik.

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