



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

SYLLABI
AND THE
STRUCTURAL OUTLINE

FOR

B.A. & B.Sc. GENERAL SECOND YEAR EXAMINATION, 2013

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CONTENTS

<i>Sr. No.</i>	<i>Particulars</i>	<i>Page No.</i>
1.	Structural Outline	(i)
2.	English (Compulsory) (for B.A. Candidates only)	1
3.	English (Compulsory) (for B.Sc. Candidates only)	3
4.	Panjabi (Compulsory) (for B.A. Candidates only)	7
5.	History and Culture of Punjab (for B.A. Candidates only)	9
6.	English (Elective)	11
7.	Hindi (Elective)	15
8.	Panjabi (Elective)	24
9.	Sanskrit (Elective)	27
10.	Urdu (Elective)	30
11.	Persian (Elective)	32
12.	Arabic (Elective)	34
13.	French (Elective)	35
14.	German (Elective)	37
15.	Russian (Elective)	39
16.	Bengali (Elective)	41
17.	Tamil (Elective)	43
18.	Kannada (Elective)	44
19.	Malayalam (Elective)	45
20.	Telugu (Elective)	46
21.	Physical Education	47
22.	Education	55
23.	Adult Education	59
24.	Music (Vocal)	62
25.	Music (Instrumental)	65
26.	Tabla (Instrumental Music)	68
27.	Indian Classical Dance	71
28.	Fine Arts	74
29.	History of Art	79
30.	Ancient Indian History, Culture & Archaeology	83
31.	Defence and Strategic Studies	87
32.	History	91
33.	Political Science	95
34.	Economics	99
35.	Sociology	103
36.	Public Administration	107
37.	Philosophy	111
38.	Psychology	115
39.	Geography	118
40.	Gandhian Studies	126
41.	Journalism & Mass Communication	130
42.	Police Administration	136
43.	Women's Studies	140
44.	Human Rights and Duties	145
45.	Environment Conservation	149
46.	Home Science	153
47.	Agriculture (Elective)	160
48.	Mathematics	163
49.	Computer Science	169
50.	Statistics	173
51.	Applied Statistics	177
52.	Physics	180
53.	Chemistry	190
54.	Botany	201
55.	Zoology	209
56.	Bio-Chemistry	217
57.	Electronics	222
58.	Microbiology	227

**STRUCTURAL OUTLINE OF THE B.A./B.Sc. (GENERAL AND HONOURS) DEGREE
COURSE IN THE 10+2+3 SYSTEM OF EDUCATION FOR FIRST YEAR 2012 EXAMINATION
(ALREADY HELD) SECOND YEAR 2013 EXAMINATION**

The new B.A./B.Sc. (General & Honours) course (at + 3 stage) in the 10+2+3 system of education has been structured keeping in view certain basic guidelines as under :--

1. (i) The scheme should provide a broad-based, interrelated and comprehensive programme of study, built upon the + 2 stage, which ultimately may act as a sound foundation for postgraduate education, participation in competitive examinations, and joining professional courses like those in Law, Education, etc.
- (ii) It is so structured and organised that it is in conformity with the needs of the country in the present context. Apart from providing good general education, it should have an applied component as part of the course work so that it creates awareness of the practical problems facing the society and generates employability of the youth in diverse spheres of activity.
- (iii) It is so designed and formulated that it provides flexibility and relative freedom of choice of courses to the students according to their special interests and capabilities.
- (iv) It is based on intensive teacher–student interaction.
2. The B.A./B.Sc. courses have been so structured and revised that they are comparable both in content and quality.
3. To cope with the fast increasing knowledge in each discipline, it has been considered desirable to cover each elective subject in two papers.

The two-paper scheme will enable the teachers to teach the subject in detail and examine the students accordingly. Effort has to be made to improve the level and adequacy of content of each course in such a manner that the total scheme provides distinct upgradation of the existing curricula for the first degree. In the absence of such an upgradation, the increase in the total educational period from 14 to 15 years for the B.A./B.Sc. will be unjustifiable.

Keeping in view the above objectives and guidelines, the following structural outline has been introduced for the B.A./B.Sc. (General) degree course :

Admissions to B.A./B.Sc. (General/Honours) course for the second and third year (For the students who have passed First Year under this scheme) for the session 2010-2011 (2011 examination) shall be as hereinafter mentioned.

Note : A person who has passed B.A./B.Sc. 1st year or 2nd year examination from other Universities in India may be allowed to migrate to this University subject to the condition that he shall have to clear the deficient subject but the total number of credits required to be earned shall remain the same.

(ii) **STRUCTURAL OUTLINE OF THE B.A./B.SC. (GENERAL/HONOURS) DEGREE COURSE
IN THE 10+2+3 SYSTEM OF EDUCATION**

B.A. (General)

The B.A. (General) programme of study shall consist of 24 credits, each credit having a value of 100 marks. A subject studied for the whole academic year shall carry 2 credits. All the theory papers and practicals irrespective of their credit value shall be studied throughout the academic year.

The detail of the subjects to be studied shall be as under :

1st Year 2012 Examination (already held)

COMPULSORY

(a) Punjabi – Two Papers

OR

*History & Culture of Punjab –One Paper

$\left\{ \begin{array}{l} 1 \text{ Credit} \\ 1 \text{ Credit} \end{array} \right\}$

These papers constitute one subject in each year.

(b) English

1 Credit

ELECTIVE

+ Any three elective subjects of two credits each including 6 Credits
languages and elective vocational subject (To be studied in
selected colleges).

Total : 8 Credits

****Environment Education : 50 marks**

2nd Year 2013 Examination

Same as in the 1st year

Note :

1. In subjects having practicals, the theory papers and practicals together will be of 2 credit value. The candidate will have to pass in theory and practical/s separately.
2. Each paper of one credit shall be allocated 3 hours of teaching per week during each academic year. However, for subjects having practicals, three hours of teaching will be allocated to each theory paper and two hours for a practical per week or as per requirement of the subject concerned.

*For B.A./B.Sc. History and Culture of Punjab is allowed as an option in lieu of Punjabi (compulsory) to those students who had already offered earlier in the First Year of 2012 examination.

** Those candidates who have not passed Compulsory qualifying paper of Environment Education earlier, will have to pass Environment and Road Safety Education paper of 70 marks (50 marks for Environment Education and 20 marks for Road Safety).

STRUCTURAL OUTLINE OF THE B.A./B.SC. (GENERAL/HONOURS) DEGREE COURSE (iii)
IN THE 10+2+3 SYSTEM OF EDUCATION

3. B.A. (General) degree holders shall be eligible for admission to the Master's course in any of the elective subjects studied by them during all the three years of the programme of study, earning six credits in each, provided they fulfil the eligibility conditions.
4. A student would offer any science subject, including Mathematics, only if he has passed that subject in the qualifying examination or qualifies in the subject as a deficient/additional subject from the concerned Board/University/Council in the Supplementary Examination subsequent to the admission.

Provided further that a student can offer :

- (a) Statistics only if he takes up Mathematics.
- (b) Applied Statistics only if he takes up other subject(s) excluding Mathematics.

B.Sc. (General)

The B.Sc. (General) programme of study shall consist of 20 credits, each credit having a value of 100 marks. A subject studied for the whole academic year shall carry 2 credits. All the theory papers and practicals irrespective of their credit value shall be studied throughout the academic year.

The detail of the subjects to be studied shall be as under :

1st Year 2012 Examination (already held)

*Punjabi/History & Culture of Punjab	1 Credit
+ Three Elective Subjects of 2 credits each including Elective Vocational Subject (To be studied in selected colleges)	6 Credits
Total :	<u>7 Credits</u>
**Environment Education : 50 marks	

2nd Year 2013 Examination

(a) English	1 Credit
(b) Three elective subjects of 2 credits each including Elective Vocational Subject (To be studied in selected colleges) (the same as in the 1 st year)	6 Credits
Total :	<u>7 Credits</u>

*For B.A./B.Sc. History and Culture of Punjab is allowed as an option in lieu of Punjabi (compulsory) to those students who had already offered earlier in the First Year of 2012 examination.

** Those candidates who have not passed Compulsory qualifying paper of Environment Education earlier, will have to pass Environment and Road Safety Education paper of 70 marks (50 marks for Environment Education and 20 marks for Road Safety).

(iv) STRUCTURAL OUTLINE OF THE B.A./B.SC. (GENERAL/HONOURS) DEGREE COURSE IN THE
10+2+3 SYSTEM OF EDUCATION

Note :

1. The two credits allocated to an elective subject, to be studied in an academic year as spelled out above, shall be covered in two theory papers and a practical or practicals as per requirements of the subject concerned.
2. In the instructional process, it is desirable to strike a balance in the teaching and learning strategies. A close interaction between the teacher and the student is necessary to achieve the above objectives.
3. Each elective subject of 2 credits for the B.Sc. shall be allocated five hours of teaching and four hours of practical work per week during the course of the academic year or as per requirements of the subject concerned.
4. B.Sc. (General) degree holders shall be eligible for admission to the M.Sc. course in any of the three elective subjects which they have studied during all the three years of the degree course, earning 6 credits in each, provided the candidate fulfils the eligibility conditions.

B.A./B.SC. HONOURS

In addition to the main objectives listed in the preamble to the B.A./B.Sc. (General) degree course, the Honours Course seeks to provide course work of advanced nature in one of the elective subjects already being studied from 1st year onwards by a student. Both in content and quality, it would be of a level as gives adequate specialized knowledge in a subject even to make it a culminating point in the programme of study if a student so chooses. Or else, it should provide strong, additional foundation for pursuing the subject at the M.A./M.Sc. level.

Keeping in view the objectives stated in the preamble to the B.A./B.Sc. (General) degree course and that enunciated above, the structural outline for the Honours degree course shall be as under :

B.A. (Honours)

The B.A. Honours Course shall carry 28 credits (each credit carrying the equivalent of 100 marks). Apart from the structure of the programme of study prescribed for the B.A. (General) degree course, credit value of the subjects/papers and hours of teaching allocated to them as already stated in the scheme, the Honours Course shall include four papers of one credit each of an advanced nature in one of the elective subjects a student shall study in all the three years of the degree course.

A student may offer Honours in Second Year in any one of the elective subjects, to be studied by him in all the three years of the course.

Provided that he has obtained at least 50% marks in the subject of Honours in the First Year of the B.A. (General) Course.

STRUCTURAL OUTLINE OF THE B.A./B.SC. (GENERAL/HONOURS) DEGREE COURSE IN THE (v)
10+2+3 SYSTEM OF EDUCATION

For the B.A. (Honours) Course, the distribution of work during the three years will be as under :-

- 1st Year** : The same as in B.A. (General). (8 credits)
- 2nd Year** : The same as in 2nd Year of B.A. (General). In addition, there shall be two advanced papers of one credit each in the subject in which he seeks to get Honour degree.
(8+2=10 credits)
- 3rd Year** : The same as in 3rd year of B.A. (General). In addition, there shall be two advanced papers of one credit each in the Honours subject.
(8+2=10 credits)

Total Credits : 28

A candidate eligible to appear as a private candidate in B.A. Examination may also offer Honours papers in any of the elective subjects offered for B.A. (General) in all three years provided he fulfils the requirement of the Regulation.

B.Sc. (Honours) :

The B.Sc. (Honours) programme of study shall consist of 24 credits, each credit having a value of 100 marks. A subject studied for the whole academic year shall carry 2 credits. All the theory papers and practicals irrespective of their credit value shall be studied throughout the academic year.

A student may offer Honours in any one of the elective subjects to be studied by him in all the three years of the course provided he has obtained at least 50% marks in the subject concerned in the first year Examination of the B.Sc. (General) course.

Of the 24 credits, each student shall offer courses in each year as under :-

- 1st Year** : The same as for First Year of B.Sc. (General). (7 credits)
- 2nd Year** : The same as for 2nd Year of B.Sc. (General). In addition, there shall be two advanced papers of one credit each in the subject in which he seeks to get Honours degree.
(7+2=9 credits)
- 3rd Year** : The same as for 3rd year of B.Sc. (General). In addition, there shall be two advanced papers of one credit each in the Honours subject.
(6+2=8 credits)

Total credits : 24

Both in B.A. Honours and B.Sc. Honours Courses, each paper of one credit shall be allocated hours of teaching, or as per requirements of the subject concerned.

Note : Instruction through audio and/or video cassettes may form a part of Languages course.

(vi) **GUIDELINES REGARDING CONTINUOUS ASSESSMENT OF REGULAR STUDENTS
OF B.A./B.SC./B.COM./B.C.A. COURSES**

IMPORTANT NOTE

- (i) In order to incorporate an element of continuous assessment of students, the Colleges will conduct two mandatory House Tests in theory papers – one in the month of September/October and the other in December/January every year.
- (ii) (a) For September Test, there will be only one paper of one hour's duration in each subject, and for December Test, there will be paper/s on the pattern of annual examination conducted by the University.

There will be a Special Test for those students who could not fulfil the conditions of eligibility. It will not be held to provide an opportunity to all students to improve their earlier score. Those students who are exempted by the Principal of the College from appearing in the House Test/s in September and/or December/January will also be allowed to appear in the Special Test; this Test will determine their eligibility for admission to the examination as well as their score for Internal Assessment.

- (b) With a view to meet the grievance of students, if any, on account of scores obtained by them, the answer-books will be shown to them. Difference of opinion on the issue, if any, will be sorted out with the help of respective Heads of departments as well as the Principal of the College.
- (iii) Whereas the September House Test will carry weightage of 40 per cent, the December House Test will have weightage of 60 per cent in each subject/paper. The total weightage for both the Tests taken together shall be 10 per cent of the total marks in each theory subject/paper. The weightage of 10 per cent marks shall be added to each paper of B.A./B.Sc./B.Com./B.C.A. I, II and III Year which will, henceforth, carry weightage of maximum marks allotted to each paper. A candidate will have to pass in theory and practical/s separately.
- (iv) The record of marks secured by the students in the two House Tests will be sent by the respective Colleges so as to reach the office of Controller of Examinations latest by 15th March, failing which the result of the students shall be shown as 'RLA' and the entire responsibility for this would lie with the Principal/s of the College/s.
- (v) The Colleges will continue to forward the internal assessment of the students for Practicals. Projects and similar other activities, wherever applicable, to the Controller of Examinations, as usual, so as to reach his office latest by 15th March.

SPECIAL NOTE :

- (i) Each theory question paper will be set out of the marks allotted to each theory paper and 10% marks of the maximum marks of each paper will be internal assessment.
- (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.
- (iii) It will not be mandatory for the students to separately pass in the internal assessment.

PANJAB UNIVERSITY, CHANDIGARH

OUTLINES OF TESTS, SYLLABI AND COURSES OF READING IN VARIOUS SUBJECTS
FOR B.A. (GENERAL) AND B. SC. (GENERAL) SECOND YEAR EXAMINATION, 2013

ENGLISH (Compulsory)

(FOR B.A. CANDIDATES ONLY)

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Outlines of tests, syllabi and courses of reading

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

Objective:

The main aim of teaching English (Compulsory) to B.A. II students is to equip them to use language in an efficient manner. The idea is to empower an average student in such a way that learning English becomes a pleasurable endeavour, and ceases to be a nightmare that it is right now. It is with this aim in mind that the new text books have been chosen for all the three years of B.A. English (Compulsory) courses. The focus of the new text books is two-fold: to teach finer nuances of language through an integrated approach; and to teach composition and grammar through activity-based, not rule-based approach. For this reason, we have consciously chosen text books that de-emphasize literature and re-set our focus on the study of language. Given the way English language proficiency levels have touched a new low in our context, it was felt that such a corrective was not only much needed, but was almost inescapable.

Note:

- (i) There will be **one paper** in all the three years of B.A. English (Compulsory).
- (ii) The paper shall be divided into two sections, i.e. **Section A & B**. The distribution of marks in each section shall be indicated separately against the questions.
- (iii) Section A shall deal with the text and Section B with composition and grammar (again based largely upon the text).
- (iv) The question should be set strictly in accordance with the pattern of question paper outlined in the syllabus.
- (v) For the successful implementation of this syllabus, it is necessary that we reflect objectives of this course, first in our teaching practices, and then in designing question paper/s and evaluating answer scripts of our students. The examination shall be held at the end of the term and/or year, as is recommended by the University, from time to time.

Text Prescribed:

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

Poetry Section

1. "The Solitary Reaper" by William Wordsworth is replaced by "Ode to Autumn" by John Keats.
2. The Road Not Taken by Robert Frost.
3. "Money Madness" by D.H. Lawrence (from *Strings of Gold*, Editors-Sarjero B.Gare, Nivrutti B. Pawar & Ramesh M.Ingale, Orient Longman 2008) replaces *The Sun Rising* by John Donne.
4. I, Too by Langston Hughes.

5. Goodbye Part for Miss Pushpa T.S. by Nissi Ezekiel.
6. I will embrace only the Sun by Tripuraneni Srinivas.
7. Refuse Mother and Child by Chinua Acheke.
8. This is a Photograph of Me by Margaret Atwood.

Prose Section

No Change in the order in which essay are placed in this section, except essay No.7

7. India's Contribution to World Unity is replaced by Shashi Tharoor's "Freedom of the Press" (from *Strings of Gold*, ed. Sarjerao. B. Sagare, Nivrutti B. Pawar etc. Orient Longman, 2008)

Section-A (Poetry & Prose)

- Q.1. The examiner will set fourteen short questions (to be answered in not more than 60-80 words, in equal number from Poetry & Prose Sections of the prescribed text, out of which a student shall be required to attempt only ten, selecting, at least, five from each section.

(10×2=20 Marks)

- Q.2. The examiner shall set eight questions (to be answered in not more than 160-180 words), again in equal number from the Poetry & Prose Section of the text, out of which a student is required to attempt only five, selecting, at least, two from each section.

(5×4=20 Marks)

Section B (Composition & Grammar)

- Q.3. This question shall have an internal choice between poetry and prose and be based on the **post-reading activities** suggested in the prescribed text. In this question, a student shall be asked to write a paragraph on an imaginative, expository or philosophical topic (in not more than 200-250 words). The topics for this purpose may be identified from the prescribed text itself. The examiner shall give three topics, and the student has to attempt one. While setting this question, special care may be taken to borrow ideas from the text or suitably modify them so as to identify viable and feasible topics that the students of B.A II can easily handle. The idea is to test a student's understanding of the text and/or general life-situations, and also devise an effective method of assessing their ability to express themselves in a simple, lucid and correct language.

(15 Marks)

- Q. 4. (a) A question on note-making based on the text. The examiner may give internal choice in this question.

(5 Marks)

- (b) A question on report-writing based on the text. The examiner may give internal choice in this question.

(5 Marks)

- Q.5. This question has to be based on various grammar exercises given in the prescribed text. The question should be set in such a way that most of the activities students have done in the class are adequately covered.

(25 Marks)

- (a) Appropriate form of words/pronouns/relative clauses etc., as given in the text. (5 Marks)
- (b) Using the right form of verbs, phrasal verbs or using nouns as verbs or vice-versa. (5 Marks)
- (c) Combining pairs of sentences using words given in the brackets (Simple/Compound) (5 Marks)
- (d) Choosing the correct antonyms/synonyms or picking odd words out. (5 Marks)
- (e) Do as directed, which shall cover Active/Passive, Direct/Indirect etc. (5 Marks)

ENGLISH (Compulsory)**(FOR B.Sc. CANDIDATES ONLY)****B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2013****Outlines of tests, syllabi and courses of reading**

Max. Marks	:	100
Theory	:	80 marks
Internal Assessment	:	10 marks
Practical	:	10 marks
Time	:	3 Hours

Objectives:

The objective of teaching English to the science students is to create general awareness among them about literature and its impact on their lives. At the same time, it is expected that the students, on reading this course, shall develop proficiency in reading and writing skills, while acquiring a sensitive and analytical attitude towards literature in particular, and life in general. It is with this aim in mind that the new text has been selected and it is hoped that the objectives of the course will not only be reflected but also realized through necessary shift in the teaching practices, design of the question paper and mode of evaluation.

Note:

- (i) There will be one paper of 80 marks, 10marks are reserved for the Internal Assessment and 10 for the Practical Work. Total is 100.
- (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 learning skills.
- (iii) For Unit I, the prescribed text is **Varieties of Expression**, Ed. A. H. Tak, Foundation Books, which shall replace the existing text **Patterns in Prose** by Jagdish Chander, P.U., Chandigarh. It may be pointed out here that only certain sections of this text i.e **prose and drama** are prescribed. Poetry has been deleted completely. Only five prose and five plays have been recommended for the study. The relevant sections, however, are as follows:

Prose:

- I. The Judgement Seat of Vikramaditya, *Sister Nivedita*
- II. Engine Trouble, *R. K. Narayan*
- III. The Conjuror's Revenge, *Stephen Leacock*
- IV. J. C. Bose, *Aldous Huxley*
- V. The Position of Women in Ancient India, *Padmini Sen Gupta*

Drama:

- VI. *The Rising of the Moon*, Lady Gregory
- VII. *Waterloo*, Arthur Conan Doyle
- VIII. *The Proposal*, Anton Chekhov
- IX. *Riders to the Sea*, J. M. Synge
- X. *Lithuania*, Rupert Brooke

- (iii) 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:

Communication: It shall focus on different aspects of communication, types of communication, and significance of positive attitude in improving communication.

Writing Skills: This section shall focus on précis-writing, letters of all kinds; curriculum vitae, short, formal reports (not exceeding 200 words); public notices 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, telegrams, 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 and 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. science in general or a specific area of science they are specializing in. 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 science. 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 80 will be proportionately increased out of 100).

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:

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

- Q.1. It shall consist of *five* short questions (not exceeding 100-120 words) out of which a student will be required to attempt any three. This question shall be based upon the prescribed text **Varieties of Expression** and cover a wide range of issues, topics and problems. It shall consist of **12 marks**.
- Q.2. It shall consist of *two* long questions (not exceeding 300-350 words) out of which a student will be required to attempt only one. This question shall have internal choice, be based upon the prescribed text **Varieties of Expression**. This shall carry **10 marks**.
- Note:** The question 1 & 2 should be so designed as to cover all the chapters prescribed, as well as the major issues and problems listed therein.
- Q.3. It shall consist of an **Unseen Passage for Comprehension** (not more than 800 words), with minimum six questions at the end. These questions should be designed in such a way that we are able to test a student's comprehension ability, language/presentation skills and vocabulary etc. This question shall be of **12 marks**.
- Q.4. 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 six words in one column and asked to match them with words/meanings in the next column. This shall carry **6 marks**.

Section II (Based upon Unit II)

- Q.5 (a) The students shall be asked to write a short survey report on a situation, incident, problem of science or the possibility of starting a new scientific venture (in about 150-200 words). The students shall be given an internal choice in this question. This question shall carry **8 marks**.
- Q.5 (b) This question shall be on notices/advertisements of various types (as mentioned in the syllabus). It'll carry **4 marks**.
- Q.6. This question shall test a student's ability to write letters of various kinds (in not more than 250 words). Again, there will be internal choice here and the question will be of **8 marks**
- Q.7 This will test a student's ability to write a Précis, A passage of about 200 words shall be given and the students shall have to write a précis of about 70 words (including the title). This question shall carry **10 marks**.

Q.8 This question shall test a student's understanding of various aspects of communication and modern forms of communication. It shall be divided into two parts:

- (a) Two short questions to be attempted (in not more than 100-120 words each) on different aspects of communication. It'll carry **6 marks**.
- (b) Definitions/format of modern forms of communication to be tested. This shall again carry **4 marks**.

Suggested Reading:

1. *Business Communication*, Ed. Om. P. Juneja & Aarti Mujumdar, Hyderabad: Orient Blackswan, 2010.
 2. *Textbook of Business Communication*, Anjali Kalkar, R.B. Suryawanshi, Amlanjyoti Sengupta, Hyderabad: Orient Blackswan, 2010.
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Gr t KB f; x dheJht heft s kf; b p; ft u ökwb Bj h?

- öj hl Gr s f; x**, (b/y e) ; fj dlopho f; x, e; s öhbkb n ÷ ; B÷, n ÷wq ; o
- S/S ÷** (; gk) vkan ks wi h s f; x, gpb h dB fpT Ö; gž k p : Bht of; Nh
uzh VQ
- (1), (2) n s / (3) T B / n KXkos bx {gqB

: {BN ns/Ehw

- | | | |
|----|--|--------|
| 1. | wZekb hfpq K ekt ft u'Agqz ; fj s ft nkynk(d'ft u'AJe) | 5 n e |
| 2. | wZekb hfpq K ekt ft u'Äe ; /fJe eft skdk; ko (d'ft u'AJe) | 5 n e |
| 3. | i Ht Bh d/ft ö/ fe ; /eK dk; ko fbyDk(fs BKft u'AJe) | 10 n e |
| 4. | fe ; /fJe fJeK hdk; ko / ft öki Kgks o (d'ft u'AJe) | 10 n e |
| 5. | fBoXkos wZekb hfps K ekt ft u'Abx {T B oKt kb/gqB (n ÷Kft u'Agž) | 5 n e |
| 6. | gkm- e uft ubhi Ht Bh; pXhbx {T B oKt kb/gqB
(n ÷Kft u'Agž) | 5 n e |
| 7. | fJeK t- ; z fj ft u'Abx {T B oKt kb/gqB
(n ÷Kft u'Agž) | 5 n e |

BN ggo ; Bb bJhLouBkd/ft ö/ ouBkdhtf ukoXkok, gks o n s / x NBk ki Ks ÷KKBb ; pfXs ; t kb
gB/i kD. T B ofJe s'As B ; soKse ; hws j t /

eB nL50
fbysH45
fJAbBb n ; ?wAL5
;wK 3 x V

1.	gkmeʋft ub/bʏeKdkɪ h B, ouBks /: t dK	5 nɛ
2.	fuʒr- gʒo (; œkoh t gkoe s /; gkde Bʃ	10 nɛ
3.	gʌgVɛ/gʌBKd/Tʒ o dD.	10 nɛ
4.	gɪz kphGʌLi Bws/ft ek ns/gɪz kphdɪm KTɪgʌk t	8 nɛ
5.	ft n kɛoD	12 nɛ

1e fe; /fJe b'ye dki h B, ouBkns/; Kij se : t dKlFBoXkos b'yeKft u'Ad' 5 nē
et hns/d'fJeK hko (u'ko ft u'fJe eoBkj ?
b'yeLnKjh; hāBðk j ouoB f; x , pbt z r kor h j o; oB f; x , ni wō f; x
nby, nkswi h ,
et hLr þr fpð f; x , dwdō, t kfo; ôkj , ekdo: ko, Bi kps, ôkj wj zd.

3a $q\hat{Q}qV\hat{e}, q\hat{Q}B\hat{K}d/T\hat{E}dD$ 10 n \hat{e}

4ε gǝkphGǝkd/i Bw, BkwǝD, ft ek, gVkn, gǝkphTǝGǝk Kn s. gǝkph 4+4=8 nǝ
Gǝkǝ/j bBKGǝk Kd/gǝk pho/gǝB (ulo ft u'Ad')

6ε pj §/ôpdKdhEKfJe ôpd 4 n ø

7ε nr \$o/fqS\$o 4 nø

1a gʲkph; ʌko : t sknfGn k , gʲk p ; NN : Bt of; NnN; Npʲ pʊv, uz h V.

3a ekbi gʲz kphft n leoD, v kəj oel os f; x s/fr n kʲh b k b f; x, gʲz k ; NN: β h of; N h Nə; N
pʲə p b v, u z h VQ

BNL jcs/d/6+3=9 g h o m v

HISTORY AND CULTURE OF PUNJAB**(For B.A. candidates only)****B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****General Instructions :**

1. In all, *nine* questions will be set. Each question will carry 18 marks.
2. First question shall be Short Answer type containing 15 short questions spread over the whole syllabus. Candidates will attempt any *nine* out of the fifteen questions in about 25 to 30 words each. Each short question will carry 2 marks, totalling $9 \times 2 = 18$ marks. The first question is **compulsory**.
3. Rest of the paper shall contain 4 units. Each unit shall have two essay type questions and the candidates will attempt one question from each unit – 4 in all.
4. 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 (4) in the question paper.**HISTORY AND CULTURE OF PUNJAB 1200-1849 A.D.**

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

Objectives : To introduce the students to the history of Punjab and its Culture in medieval times.**Pedagogy :** Lectures, library work and discussions.**Unit-I**

1. Society and Culture in Punjab during the Turko-Afghan rule.
2. The Punjab under the Great Mughals.
3. Salient features of the Bhakti movement and Sufism in Punjab.

Unit-II

4. Guru Nanak : His teachings, concept of Langar and Sangat.
5. Development of Sikhism (1539-1581): Contribution of Guru Angad Dev, Guru Amar Das and Guru Ram Das for the development of Sikhism.
6. Transformation of Sikhism : Compilation of Adi-Granth; Martyrdom of Guru Arjan Dev; Guru Hargobind's New Policy.

Unit-III

7. Martyrdom of Guru Tegh Bahadur; the foundation of the Khalsa by Guru Gobind Singh.
8. Banda Bahadur and his achievements; Sikh Struggle for sovereignty from 1716 to 1765 and the role of Dal Khalsa, Rakhi, Gurmata and Misls.
9. Ranjit Singh's rise to power, civil and military administration, relations with the British.

Unit-IV

10. Annexation of the Punjab with special reference to the causes and consequences of the Anglo-Sikh wars.
11. New developments in language, literature, education, art and architecture in the Punjab during the Medieval period.
12. Social life with special reference to the position of women, fairs, festivals, folk music, dance and games in the Punjab.

Suggested Readings :

1. Singh, Kirpal : *History and Culture of the Punjab*, Part II (Medieval Period), Publication Bureau, Punjabi University, Patiala, 1990 (3rd edn.).
N.B. : The required detail and depth would conform to the treatment of the subject in the above survey. (This book will also form the basis of the short answer questions).
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., and Das, M.N. : *A Social, Cultural & Economic History of India*, Vol. II, Macmillan, Delhi, 1974.
6. Hussain, Yusuf : *Glimpses of Medieval Indian Culture*, Asia Publishing House, Bombay, 1973 (rep.).

ENGLISH (Elective)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****Outlines of Tests, Syllabi and Courses of Reading****Objective:**

The main aim of teaching English (Elective) to B.A. II students is to enable them to approach a wide variety of literary texts and genres with critically sensitive and analytical understanding. The idea is to introduce the students to the basic concepts of literature and also empower them to read, analyze and write about a poem, prose, essay or drama in an independent manner. It is with this modest aim in mind that the new text books have been selected for all the three years of B.A English (Elective) courses. The focus of the new text books is two-fold: to teach finer nuances of literature and language through an integrated approach; and to help and motivate the students to develop basic tools of analyzing a variety of literary texts/genres.

Note:

- (i) There will be two papers in all the three years of B.A. English (Elective) courses. Rather than divide the papers vertically, there will be horizontal division in terms of texts, composition and grammar. As two books are prescribed for each course, these two books shall be distributed across two papers and shall not be included in the same paper. So, **An Anthology of English Verse** shall figure in **Paper A** and **Girish Karnad's Hayavadana** shall be included in **Paper B**. Questions on composition and grammar shall also be evenly distributed in both the papers. This is being done to help the students, who shall now find both the papers proportionately divided and so easily manageable.
- (ii) Each paper shall be of 90 marks, and 10 marks in each paper shall be reserved for Internal Assessment. Each paper shall be further sub-divided into Sections, I & II. The mode of distribution of marks shall, however, vary from paper to paper. There shall be six questions in each paper. All the questions will be compulsory. Though internal choice may be offered in some of the questions, there will be no external choice.
- (iii) Each paper shall include minimum 15 literary terms/concepts appropriate to the particular literary genre included in that paper.
- (iv) The questions should be set strictly in accordance with the pattern of question paper outlined in the syllabus.
- (v) For the successful implementation of this syllabus, it is necessary that we reflect objectives of this course, first in our teaching practices, and then in designing question paper/s and evaluating answer scripts of our students. The examination shall be held at the end of the term and/or year, as is recommended by the University, from time to time.

Texts Prescribed:

1. **An Anthology of English Verse, Ed.** Dept. of English, Deen Dayal Upadhyaya, Gorakhpur University, New Delhi, OUP, 2004 (Only 15 poems are prescribed)

There is no change in the prescribed text books. Only a few poems (from the prescribed text *An Anthology of English Verse* ed, Dept. of English & Modern European Language, Deen Dayal Upadhyaya University, Gorakhpur, OUP 2004), which have already been included at some earlier stage are being

replaced or changed. 15 prescribed poems shall now be as under:

Texts Prescribed:

1. John Donne: *The Sun Rising*
 2. Alexander Pope: *From Essay on Man*
 3. Thomas Gray: *Elegy Written in the Country Churchyard*
 4. William Blake: *The Tiger*
 5. William Wordsworth: *Tintern Abbey*
 6. John Keats: *Ode to a Nightingale*
 7. Tennyson: *Ulysses*
 8. Browning: *My Last Duchess*
 9. Matthew Arnold: *Dover Beach* is replaced by his *To Marguerite* (included in the same anthology)
 10. Hookins: *Pied Beauty*
 11. Wilfred Owen: *Anthem for the Doomed Youth* is replaced by A.K. Ramanujan's *History*
(Included in the same anthology)
 12. Yeats: *A Prayer for My Daughter*
 13. T.S. Eliot: *Journey of the Magi*
 14. W. H. Auden: *The Unknown Citizen* is replaced by Thomas Hardy's *The Darkling Thrush*
 15. Philip Larkin: *The Trees*
2. **Girish Karnad: *Hayavadana*, in *Three Plays*, New Delhi: Oxford University Press, 2005.**

Paper A:

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

Section I

{Literary Terms/Concepts: *Allegory, Allusion, Antithesis, Epic, Epithet, Hyperbole, Internal Rhyme, Rhyme Royal, Terza Rima, Metaphor, Metonymy, Medias Res, Oxymoron, Mood, Tone, Personification, Stanza, Spensarian Stanza, Satire, Verse Paragraph*}

- Q.1. It shall be on literary terms/concepts. Eight terms shall be given in all, and the students will be required to do *five*. (15 Marks)
- Q.2. The examiner will set seven short text-based questions (each to be answered in not more than 40-60 words) from the prescribed **Anthology**, out of which a student shall be required to attempt *only five*. (15 marks)
- Q.3. Long questions *five* out of *seven*, again based on the **Anthology** (and each of these is to be answered in about 100-120 words) (15 marks)

Section II

- Q.4. Dialogue Writing: The examiner will give one descriptive passage of about 500 words, and ask the students to re-write the same in dialogue form. However, the examiner must ensure that he/she gives such a passage as can easily be converted into dialogue form. (10 marks)
- Q.5. Précis Writing with a suitable title: (A passage of about 240-250 words) (10 marks)
- Q.6. Do as directed:
- (a) Correction of different types of sentences (5 marks)
 - (b) Choose the correct meaning of the word (5 marks)
 - (c) Completing the incomplete sentences (5 marks)
 - (d) One word substitution (5 marks)
 - (e) Use of Idioms/Phrases in sentences (5 marks)

Paper B

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

Section I

(Literary terms/concepts: Drama, Myth of Dionysus, Liturgical Drama, Miracle Plays, Mystery Cycles, Interludes, Mimesis, Catharsis, Tragic Hero, Organic Unity, Revenge Tragedy, Poetic Drama, Verse Drama, Myth & Drama, Ritual & Drama, Yaksgana, Rasa Theory, Indian Theory of Drama, Puppetry, Ardhnarishwra)

- Q.1. Literary terms/concepts, any *Five out of Eight* (15 marks)
- Q.2. Short text-based questions, *five out of seven*, on **Girish Karnad's Hayavadana's** play (each of the questions to be answered in about 50-60 words) (15 marks)
- Q.3. Long questions *two out of three*, again based on **Girish Karnad's Hayavadana** dealing with the theme, incident, character(s) or use of symbols etc. (each to be answered in about 180-200 words) (15 marks)

Section II

- Q.4 Write an essay (of about 500 words) on any topic of national interest. The students shall be given three topics, out of which they have to choose *one*. (20 marks)

Q.5 Letter Writing (Letters to the Editors or Commercial/Business Letters) (15 marks)

Q.6 Translation from Vernacular into English (a paragraph of about 250 words)

Or

A paragraph on any *one* of the *two* given topics (for foreign students only)

(10 marks)

Note: Allotment of periods:

Texts 6 per week in a class of 60 students

Composition & Grammar: 3 per week in a class of 30 students

fghh ¼ PNd½

ch , - ¼ keW; ½f}rh; o'z ijkW 2013

i=&,d

i ukel %90\$10 = 100

I e; %3 ?k.Vs

1. **rj&.h&eulgj yky vkun] i atlc ; fuofl ¼h] ifcydsku C; jh p.Mhx<-** vd %22
 fuEufyf[kr dfo iKB; Øe eafu/WZjr gS%
 eSfkyh'kj .k xqr] t; 'kdj i] kn] l ¼ZWR f=iKBh 'fujyk' l fe=kullnu i r] egknoh oek] vKs] /kebhj Hkkjr hA
 ¼d½ 6&6 vadkad nks l nhl&l fgr 0; k[; k; djuh gkxhA dy pj 0; k[; k; iNh tk; xhA
 ¼k½ dfo&ifjp;] l kj vlg mfs; l adlh dy nks izu iNs tk; xA iR; d mUkj dh 'Kn l hek 200 gkxhA 10 vadkad , d gh izu djuk gkxhA
2. **,d l R; gfj'plh& MWy{eh ukjk; .k yky] idk'kd] jktiky , .M l at] ubZfnYyhA** vd %16
 ¼d½ l nhlZ l fgr 0; k[; k dsfy, nks izu iNs tk; x] mUkj , d dk gh nuk gkxhA bl dsfy, 6 vad fu/WZjr fd; sx; s gA
 ¼k½ ik=ka ds pfj=&fp=.k] rRok ds vk/kj ij ukVd dh l eh{k rFk l el; k l adlh nks izu iNs tk; xA mUkj , d dk gh nuk gkxhA bl dsfy, 10 vad fu/WZjr gA
3. **bl [kM earhu&ru vadk ds pj y?&mUkji {kh izu djuh gkxhA dy vKB izu iNs tk; xA iR; d mUkj dh 'Kn l hek 50 gkxhA ; si zu bl i= ds iWDr nks [kM/k rj&.kh o , d l R; gfj'plh½ ij vk/WZjr gkxhA** vd %12
4. **fghh l fgr; dk bfrgl %jhfrdky vkjSvk/kud dky %doy dk; &[kM½** vd %20
 ¼d½ jhfrdky dh ifjflFkr; k] ukedj.k] l hek&fu/WZjr.k] idfr; k] jhfrC) vlg jhfreDr dk; dh ief{k fo'ksrk,} jhfrdk; ds ief{k dfo & dsko] fcgjh] ?ukun ds l adk ea 10 vadkad , d izu djuk gkxhA dy nks izu iNs tk; xA
 ¼k½ vk/kud dky ds doy dfork&bfrgl [kM eal sHkjrthq; q] f}onh ; q] Nk; koln] ixfrokn] iz kxokn vlg ubZ dfork dh doy ief{k idfr; ka l sl ad/kr 10 vadkad , d izu djuk gkxhA dy nks izu iNs tk; xA
5. **oLrqu'B izu %** vd %20
 bl i= ds iWDr pjka [kM/k ds vk/kj ij 2&2 vadk ds nl oLrqu'B izu adsmUkj nus gkxhA dy ilng izu iNs tk; xA
vlfjd eh; kadu % vd %10

i=&nks

iukd %90\$10 = 100

I e; %3 ?k.Vs

ukV % i = nks eaHk'kk&'k{k.k dk 0; kogkfjd iz kx gksk rFkk Nk=ka ij 0; fDrxr : i l s/; ku nuk vfuok; ZglskA vr% d{kk&vuHkx dh Nk= l d; k 30&40 dschp l hfer gkskA

1. vln'kz, dkdh l xg] l 0 Mkw l d kj pln] iatkc ; fuofl xh ifcydsku C; jk p.Mhx<- jkj i dlf'krA v d %10

%d% , dkdh ds ruok ds vk/kj ij l eh{kkRed izu 14 kj&y{ku] pfj=&fp=.k] mif; l dkh/A 10&10 v dkd snks izu iNs tk; xA , d dk mukj nuk gkskA

%d% l nkh l fgr 0; k[; k ugha iNn tk; xhA

2. I yku 50 fVlif.k; ka dk vH; k %4 Nn xbznl fVlif.k; kaal sikp dk mukj nuk gkskA v d %10

3. I eh{k fl) kR %doy ukVd vj , dkdh v d %16

ifjHk'kk ruo vkj oxhbj.k ij vk/kfjr] ukVd rFkk , dkdh nksafo/kvka l sl d/kr nk&nks izu iNs tk; x} ftueal s 8&8 v dkd , d& d izu djuk gkskA

4. 0; kogkfjd 0; kdj.k v d %20

%d% l ekdfr] fHkUkFkd 'kOn&; x e v d %4

%d% Loj&l i/k , oa0; at u&l i/k v d %4

%x% l i/k&foPNn %doy 0; kogkfjd% v d %4

%k% okD; & 'kxku v d %4

%M% fojke&fpgu v d %4

5. I kj&y{ku v d %8

6. 'kd dh; i=&y{ku v d %8

7. foLrkj.k v d %8

8. rdudh 'kukoyh %doy iz'kd dh; 'kukoyh% v d %10

ukV %15 izu iNs tk; x} ftueal s 10 dk mukj nuk gkskA

vkrfjd eh; kdu %

v d %10

iʒkʌl fud 'kɔləyɪh

1.	Acceptance	Lohdfr
2.	Account	yʃkʌl [kʌrʌl] fgl kɔ
3.	Accuse	vʃlk; lɔx yxkuk
4.	Acknowledgement (fact etc.)	vʃlkLohdʌlʃ djukʌl ekuukʌl dɔw djuk
5.	Acknowledgement due	jʌl ɪnʌl i kɔrɪhʌl fgr
6.	Addressee	i kuɔkyk
7.	Adjournment	Lfxu
8.	Administration	iʒkʌl u
9.	Admissible	xʌgʌ; j Lohdʌlʃ; l
10.	Affidavit	'ki Fk yʌkʌl gyQukek
11.	Agent	vʃlkɔdrʌlʃ, tɔv
12.	Agitation	vʌkɪnkyu
13.	Agreement	dʌkʌlʃ vʌpʌkʌl l gefr
14.	Allowance	Hkʌkʌ
15.	Amenity	l ʌkʌl fɔ/kʌ
16.	Anti-Corruption Officer	Hkʌvʌkʌlʃ fʌkʌkʌ vʃkʌlʃ
17.	Appeal	vɪhyʌl vɪhy djuk
18.	Appointment	u; ʌpʌr
19.	Appoint	fu; ʌpʌr djuk
20.	Approval	vʌpʌkʌlʃ
21.	Article	vʌpʌkʌlʃ fu; eʌl ɔlʌrʌ
22.	Association	l ʌkʌl l ɛktʌl l ʌe
23.	At par	l eelʌ; i j
24.	Attendant	i fʌpʌj
25.	Attestation	l kʌ; kʌduʌl vʌtʌkʌlʃ.ku
26.	Audit	yʃkʌkʌlʃ i jhʌkʌ
27.	Ballot Paper	eri ʌl eripʌlʃ
28.	Ban	i fʌrʌkʌlʃ j kʌlʃ i kɔnʌ
29.	Bonafide	l nʌkʌkʌlʃ ɔkʌrʌfʌdʌl vʌl yʌ

30.	Book-fair	i t r d e y k
31.	Bureau	d k; k y; j c; j k s
32.	Cabinet	e f i = e M y
33.	Candidate	v l t; F k t i k F k t m E e h n o k j
34.	Care-taker	j [k o k y k] v o / k; d
35.	Cashier	j k d f M; k
36.	Censure	f u n k i L r k o j i f j f u n k
37.	Certificate of Medical Fitness	v l j k k; i e k. k & i =
38.	Character Certificate	p f j = i e k. k & i =
39.	Charge Sheet	v l j k i i = j Q n t t e l
40.	Circular	i f j i = j x' k r h & f p V B h
41.	Circulation of Traffic	; k r k; k r i f j p k y u
42.	Circus	Ø t M k j a j j a e M i
43.	Citation	i / k f L r m j . k v u y t l u
44.	City Booking Office	u x j f v d v t j j u x j c f d a & d k; k y;
45.	City Compensatory Allowance	u x j H k U k
46.	Civil	u k x f j d
47.	Civil poll	u x j f u o k p u
48.	Civil Sense	u k x f j d H k k o u k
49.	Civil-air-craft	v l f u d o k; q k u
50.	Claimant	n k o n k j n k o h
51.	Collector	l e k g r t l a g d l d y u d r t d y Ø v j
52.	Colony	c L r t m i f u n s k
53.	Colossal	f o' k y c g R d k;
54.	Colour Blindness	o. k k / k r k
55.	Communique	f o K f l r
56.	Complaint	f' k d k; r
57.	Complementary	i j d
58.	Completion Report	l e k i u f j i k v l
59.	Certified Copy	i e k f. k r i f r f y f i

60.	Complementary Copy	migkj i fr] ekulFkZ i fr
61.	Composite	feyk&tykj l ffeJ.k] l f'y"V
62.	Comprehension	0; ki d dk; Zcdk
63.	Contingencies	vkdfLed 0; ;
64.	Contractor	Bcdnkj] l foncdkj
65.	Confiscate	tGr djuk] vf/kgj.k djuk
66.	Corporation	fuxe
67.	Custody	vfllkj {kk
68.	Decorum	f'k"VRkkj 'kkyhurk
69.	Defacto	oLr%r
70.	Defaulter	=fVcdkj] pcd djuokyk] cldhmkj
71.	Defendant	i froknh
72.	Depreciation Charge	eW; k&k] i Hkkj] vo{k; i Hkkj
73.	Design	vfllkdYi] vfllkdYi uk] : ikadu] fMtktbu
74.	Dispatch	i k.k] joku xh] i f'kr djuk] joku djuk
75.	Dignitory	mPp in/kjh] efgelilor
76.	Director	fun&kd
77.	Disbursement	l forj.k
78.	Discipline	vuqkkl u
79.	Discrepancy	fol æfr] xyrh
80.	Discretion	food] foodkf/kcdkj
81.	Dissent	fol fefr] vl gefr
82.	Disqualified	v; k;] vugZ
83.	Division	foHktu] eMy] Js kh] i Hkkx] fMohu
84.	Eligible	i k=rk i klr] i k=
85.	Emergency	vki kr]- vki kr&fLFkr] vki kfrd
86.	Emigrant	mRi okl h
87.	Employment	jkt xkj] uk&ljh] fu; kst u
88.	Employment Exchange	jkt xkj] dk; k&y;] jkt xkj] nQrj
89.	Employment Officer	jkt xkj] vf/kcdkjh

90.	Enquiry	iNrkN] tlp
91.	Enrolment Number	ukekdu l f; k
92.	Enrolled	ukekdr
93.	Evacuee	fu"Økr
94.	Executive Engineer	dk; i kyd vflk; rk] dk; i ky bat hfu; j
95.	Faculty	l ðk;
96.	Finance	foÜk] : i; k yxluk
97.	Gazetted Officer	jktif=r vf/kdkjh
98.	Gazetteer	jktfoofj.kdk
99.	Gazetted post	jktif=r in
100.	Grant	vuqku] Lohdkj djuk
101.	Incentive	i kkl kgu
102.	Index	l pðd vuøe.kh
103.	Initials	vk {kj
104.	Insured Letter	chek fd; k gvk i =
105.	Interim	vUrfje
106.	Intelligence	xlrork] vki puk
107.	Intelligentia	i cð ox] cð] thoh oxl
108.	Intensive reading	xgu i Bu
109.	Intention	vflki k;] vk' k;
110.	Judgment	fu.kz
111.	Jurisdiction	vf/kdkj&{k=
112.	Ledger	[kkrk
113.	Lessee	i VVnkj
114.	Liaison Officer	l i dZvf/kdkjh
115.	Maintenance	vug {k.k] Hkj .k&i kSk.k] j [k&j [kko
116.	Major	0; Ld] dkfyx] est j] i klr0;
117.	Manager	i cdkd] 0; oLFki d] eðst j
118.	Minor	vo; Ld] ukdkfyx] vi klr0;
119.	Monopoly	, dkf/kdkjh] , dkf/ki R;

120.	Motion	i l rko
121.	Nationalization	j k" v h; d j . k
122.	Negotiation	l f / k o k r t j l e > k f s d h c k r p h r
123.	Note of Dissent	f o l e e f r y f k j v l g e f r y f k
124.	Notification	v f / k l p u k
125.	Oath Commissioner	' k i F k v k; q r
126.	Offender	v i j k / h
127.	Permissible	v u e s j v u k s j { k e;
128.	Planning Commission	; k s t u k v k; l o x
129.	Precedence	i m t k j v x r k
130.	Procedure	d k; f o f / k
131.	Public	l k o t f u d j v k e j l j d k j h j y k d
132.	Quorum	x . k i f i r j d k j e
133.	Receipt	i k o r h j i k f i r j l h n
134.	Recruitment	h k r h z
135.	Receiver	i k u o k y k
136.	Reminder	l e j . k & i = j v u k e k j d
137.	Representative	i f r f u f / k
138.	Senior	o f j " V j T ; \$ B
139.	Sine die	v f u f ' p r d k y d s f y ,
140.	Statutory	d k u u h j f o f / k d j l f o f / k d
141.	Stenographer	v k ' k f y f i d
142.	Subordinate	v / k h u j v / k h u L F k
143.	Tender	f u f o n k j V M j
144.	Transfer	c n y h j L F k k u r j . k j v a r j . k
145.	Treasurer	d k s k i k y
146.	Unofficial	v ' k k l d h ; j v ' k k f l d
147.	Vacancy	f j f D r
148.	Vigilance Officer	l r d z k v f / k d k j h j f u x j k u h v f / k d k j h
149.	Warrant	v f / k i = j o k j v

50 **විකි.කි**

- | | |
|---|---------------------------|
| 1. A brief note is placed below | උඩින් විකි.කි උපරිපිටි ගන |
| 2. Acknowledge receipt of this | එකිනෙකාගේ ලිපි, ආ |
| 3. Action as proposed may be taken | ; එකිනෙකාගේ ලිපි, ආ |
| 4. Agenda of the meeting is put up | එකිනෙකාගේ ලිපි, ආ |
| 5. Application may be rejected | විකි.කි ලිපි, ආ |
| 6. Approved as proposed | එකිනෙකාගේ ලිපි, ආ |
| 7. Administrative approval may be obtained | එකිනෙකාගේ ලිපි, ආ |
| 8. Await reply | එකිනෙකාගේ ලිපි, ආ |
| 9. Await further report | එකිනෙකාගේ ලිපි, ආ |
| 10. Ascertain this position please | එකිනෙකාගේ ලිපි, ආ |
| 11. Amended draft is submitted for approval | එකිනෙකාගේ ලිපි, ආ |
| 12. Brief resume of the case is given below | එකිනෙකාගේ ලිපි, ආ |
| 13. Call for explanation | එකිනෙකාගේ ලිපි, ආ |
| 14. Call for report | එකිනෙකාගේ ලිපි, ආ |
| 15. Comply with the orders | එකිනෙකාගේ ලිපි, ආ |
| 16. Clarify the position please | එකිනෙකාගේ ලිපි, ආ |
| 17. Copy enclosed for ready reference | එකිනෙකාගේ ලිපි, ආ |
| 18. Copy is enclosed | එකිනෙකාගේ ලිපි, ආ |
| 19. Copy forwarded for information and necessary action | එකිනෙකාගේ ලිපි, ආ |
| 20. Case may be kept pending | එකිනෙකාගේ ලිපි, ආ |
| 21. Delay should be avoided | එකිනෙකාගේ ලිපි, ආ |
| 22. Disciplinary proceedings may be initiated | එකිනෙකාගේ ලිපි, ආ |
| 23. Draft reply is put up | එකිනෙකාගේ ලිපි, ආ |
| 24. Enquiry may be conducted | එකිනෙකාගේ ලිපි, ආ |
| 25. Expedite action | එකිනෙකාගේ ලිපි, ආ |
| 26. Explanation may be called for | එකිනෙකාගේ ලිපි, ආ |
| 27. Facts for the case may be put up | එකිනෙකාගේ ලිපි, ආ |
| 28. For perusal and return | එකිනෙකාගේ ලිපි, ආ |

29.	For comments please	di; k fVli .kh nA
30.	For sympathetic consideration	I gkuHkri i wLz fopkj dsfy, A
31.	Forwarded and recommended	i fkr vLg I Lrqr A
32.	I concur with the proposal	eSbl iLrko I sviuh I gefr idV djrk gA
33.	I have no remarks to offer	e p s d kbz fVli .kh ugha djuh gA
34.	Inform all concerned	I Hkh I dA/kr 0; fDr; ka dls I fpr dja
35.	Issue a circular	ifji = tkjh dja
36.	Keep pending	fu.kz dsfy, jkd j[kA
37.	Kindly accord sanction	di; k Lohdfr nhft, A
38.	Kindly confirm	di; k i fV dja
39.	Matter is under consideration	ekeyk fopkj/khu gA
40.	No action is necessary	dkbz dk; bkgb vi fkr ugha gA
41.	Needful has been done	vko'; d dk; bkgb dh xbz gA
42.	Order may be issued	vknsk tkjh fd; k tk, A
43.	Please see the proceeding notes	di; k fi Nyh fVli f.k; k nqk ya
44.	Put up the relevant papers	I dA/kr dkxt iLrqr dja
45.	Reminder may be sent	vuLekjd Hstk tk, A
46.	Report compliance immediately	vuiky djd srjUr I fpr dja
47.	Specific reason may be given	fof'kV dkj. k fn; k tk, A
48.	Submitted for information	I puk dsfy, iLrqr gA
49.	This may be treated as confidential	bl s xliuh; I e>k tk, A
50.	Verified and found correct	tkpk vLg I gh ik; kA

gž kph(fJb@fNt)
phaJa(i Bob) Gkr d{ k2013 d/fJwfsj lB bJh

ggo LJ,

e 10 n 100
 fbys 90
 fJbBb n; ?wAL10
 ; wKL 3 x 10

gkmeu

- | | | |
|----|-----------------------------|--------|
| 1. | wZe kb dhuDt hAgž kpheft sk | 40 n 2 |
| 2. | ; øoBkw/dkn fXn B | 25 n 2 |
| 3. | ej kDf-; z g | 25 n 2 |

eb;

- | | |
|----|---|
| 1a | wZe kb he kft ; f Xhm K (; gk) v kXowf; x , gpb he dB fpT 0; gž kp : Bht of; Nh u x h VC |
| 2a | gZ j hw b j ? (b/ye) wBwj B pkt k uš Bkgq l0B, b fXn kDk |
| 3a | eEk gthj , (; gkde) ; [o d o e [ko dt dt o, gpb he dB fpT 0; gž kp : Bht of; Nh u x h VQ |
- : fBN ns/Ehw**

- | | | |
|----|--|----------------|
| 1. | (T) wZe kb he kft ; f Xhm Kg [se ft u'Agqz ; fj s ft n k yn k
(uko ft u'Ad) | 10 +10= 20 n 2 |
| | (n) eAohGk (fs BKft u'AJe) | 10 n 2 |
| | (J) eft s kdk; ko (fs BKft u'AJe) | 10 n 2 |
| 2. | ; øoBkwkl | |
| | (T) bx {T 0kt kb/gqB (n žKft u'Agž) | 5x3 =15 n 2 |
| | (n) ; øoBkw/dkft ok gq x NBk K; kfj se goy (d'gqBKft u'AJe) | 10 n 2 |
| 3. | ej kDh ; z g l | |
| | (T) bx {T 0kt kb/gqB (n žKft u'Agž) | 5x3 =15 n 2 |
| | (n) ej kDhdkft ok; kfj se n kluBk | 10 n 2 |
- BNLj** cs/d/ 6 + 6 = 12 grom v

e ~~B~~ n ~~e~~ L100

fJ ~~Ab~~Bb n ; ?w~~AIL~~ 10

$$; w \in \mathbb{N} \times \mathbb{N}$$

gkne up

- | | | |
|----|---|--------|
| 1. | gž kph; kfj s dkfJfsj k (1701- 1900 Jhas Ž) | 30 n ž |
| 2. | ; kfj s n kluBkns /Groshekt - ôk so | 20 n ž |
| 3. | Sđ - gřž | 10 n ž |
| 4. | ; kfj s d/oğ | 20 n ž |
| 5. | ; fGn ku ko n s /gž kph; fGn ku ko | 10 n ž |

eb;

1. gız kph; Kfj s d k f J f s j k (1701 J H s A 1900 J h a s Z), gız kph: B h of; N h g f N h k b k
2. ; Kfj s n k b u B k n s / G o s h e k f t - ö k s o
3. S d - g p x
4. ; Kfj s d / o g
5. ; f G n k u k o n s / gız kph; f G n k u k o

$$: \{BNns/Ehw$$

- gž kph; kŷ s d k f j s j k (1701 J h a s A 900 J h a s Ž) 15 n ø
(T) ; ø h e k f t - X l ø k f e Z k e k f t X l ø k t k o s / i z B k w k e k f t - X l ø k t k o s e ; k ŷ s
B k b ; p x s f j s j k w ø p e s / g ŷ t o s h w ø p e g q B
(d' f t u' A U e)
B N L g g o ; R o t B A U e g q B f j s j k w ø p e s / f j e g ŷ t o s h w ø p e g p S n k i k t /
(n) 1701 J h a s A 1900 J h a s e d / g ž k p h ; k ŷ s d / f j s j k f t u' A b x { T B o k t k b /
g q B (t h j f t u' A g d o k } 15 × 1 = 15 n ø
- ; k ŷ s n k b u B k n s / G o s h e k f t - ø k s o 100 10 = 20 n ø
(T) ; k ŷ s n k b u B k d h g f o G l ø k ; o ŷ , w j Ž t
(n) G o s h n k b u B k L o ; ; g o d k f j - o ; d h g f o G l ø k G t , f t G t , n B p k t ,
; ø k o h G t ; ; E k J h G t , o ; d / g q k o
(J) X B h ; g o d k f j L X B h d h g f o G l ø k ø p d ø e s h n K n f G X k b e o D k n s / f t n ž B k
_ (T), (n) n s / (J) G r K d / u k o ; t k b k f t u' A e ' J h d' e o B / n s / j a e G r d / n ø
p o k p o j D r ≠
- S d - g p x L d f j o k ; b m k e b V k n s / d t Ž h n k ; t Ž h n k e f p Ž , f ; o y z h 5 + 5 = 10 n ø
f B o k B h p A , u ŷ J h (u k o f t u' A d)
- ; k ŷ s d / o ŷ 100 10 = 20 n ø
f e Z k t k o , e k h i z B k w k ø h j ø ø h f ; Ž n D h n K ; j k r , x V h n K
(u k o g q B k f t u' A e ' J h d)

5. ; fGn kulo n s /gž kph; fGn kulo l 10 n ž
 ; fGn kulo dhgfoGok ; oğ, b ŽD n s /gž kph; fGn kulo d /ft fGB gž
 (d'ft u'æ'JhfJe ; t kb)

:j kJe gļ seKL

1a gž kph; kļ s dkfJfsj k (1701- 1900), gž kp : Bht of; Nh uz hr VQ

2a gž kph; kļ s dkfJfsj k (1707- 1900), gž kph: Bht of; Nh gfNh kb k

3a gž kph; kļ s dhTš gshs /ft ek , gofwo f; x s /feogkb f; x e; b, b kļ ò pē ōkg, b[Xn kDk

ft ōb BN L: wū/gkmew/bJhj cs /ft ū 6Q&12 ghoh v.

I ðr (byð)
ch-(t u) f r h o'2013

PAPER-A : xnk, ouk

i v%90 + 10= 100

I e; %3 kVs

Mi. k i zu i-kdke e f gungsk Amjke e I ðr] f g u] i alch; kvæ hed sd lsz, d HkkgshA
nms; &

- fol kFZedshjrh n' dsvfjrh xbfjR JlenHkonkm(præZvè k) esi f i km fu'dle deZs] I eP
; k eslfk ; kshi #kæ kvlpj.k, amud hefgej fofhu i d j. d sklu; K r Fk Klu d kegR bRln fo'k, æd k
vè; u djokukA
- I ðr uk, fol kd slo: lkv]Si æfÜ, k si f fpr djukA
- Ologj d I ðr dsl e/4 'kæ HkNj I sNkæd ðr dsi f #p nRlW djukA

(d) xnk(præZvè k)

40 vð

(i) I @yld %i za vuqn, oe-Of; k

3x 10 3/30 vð

(ii) xnk(præZvè k) ij vk kjr I ekæd i zu

1k 10 3/4 10 vð

([k nnoD, e&Hk

30 vð

(i) 'yld @ @ %i za vuqn o Of; k

2x 10 3/4 20 vð

(ii) I ekæd i zu(yld i fjp;] jpukæfo'k, olr j i kofj -fp-k)

1k 10 3/4 10 vð

(x) Ologj d I ðr 'koyh

20 vð

(i) olæ vkkkR Jæjij d

5 x 2= 10 vð

1- day	& d Ey%	2- djrk	& d xpd%
3- d k/	& i k j%	4- plkj	& i æn%: kÖPNkue
5- t nk	& nkur ~	6- r fd; k	& nñ/ kue~
7- rjh	& vkrj. le~	8- r qVrk	& nÜjhe~
9- / lsh	& v/ lslæj~	10- i xNñ	& f jLæ-mñ. kke~
11- jrk	& ; ofudk	12- i kt lek	& i k, le%
13- i s	& vkizntue~	14- #eky	& djoLæ~
15- 'kokuh	& i k j de~	16- l kMh	& l kVdk
17- losj	& m k j de	18- di N	& olæj-ol uej plje
19- v æh	& v ægh de j-æp k	20- d æuk	& d d. k%
21- d ku dhckyh	& d qvæ~	22- xguk	& vyÆ j, %v k k. le~
23- æ#	& fdæl. lh	24- pñ	& d lpoy; % d lpoy; e~
25- uFk	& Nsydk	26- i k s	& uij, uijæ~

27- dkt vɔ (ck yʌ)	& dsje~	28- gj	& gj%
29- l ɪ s d k d M	& dVd%	30- v k u k (' k h k)	& ri ʒ ɔ v k l ɪ ʒ
31- b k (l ɪ)	& x l ɔ r ʒ e~	32- nɔ v u	& m j r ʒ e~
33- d ʒ h	& i ʒ k u h	34- d k y	& v x t u e j d t t y e~
35- ɔ e	& ' j k %	36- M ʒ V s y	& J ʒ j ɔ y d e~
37- fryd	& fryd e~	38- n k d k c k	& n l d / k u e j n l d d p ʒ
39- l ɪ i k s y ' k	& u j ʒ a u e~	40- f c l u h	& f c l u ʒ
41- i k n j l	& p v ʒ e~	42- e a u	& n l d p v ʒ e~
43- e g n h	& e f t " B k	44- f y i f l v d	& v k ʒ j a u e~
45- l k q	& ɔ s y e j ɔ s d e~	46- f l ʒ k r k u	& J ʒ j / k u e j J x j f i v d e~
47- f l ʒ j v	& f l ʒ j e~	48- n a d j ʒ a u s d h l ʒ	& n l d ' k s u h
49- e g l o j	& v y D r d k	50- : t	& d i ʒ j a u e~

(ii) v l ʒ j H k s u , o a r R E ¼ i k k

5 x 2 = 10 v d

1- v j g j	& v k d h	2- n M	& e k l ʒ
3- x g v	& x l s ʒ %	4- x g v k v k k	& x l s ʒ p v ʒ
5- p u k	& p . l d %	6- t l s	& ; o %
7- p l o y	& r . M ʒ d i g %	8- T o j	& ; o u l y %
9- f r y	& f r y %	10- n j	& f j n y e~
11- / k u	& / k u e j ' k y %	12- ɔ k j k	& f i z ʒ ʒ
13- c s u	& p . l d p v ʒ e~	14- B k j v	& d j ʒ %
15- B k	& e p %	16- l ʒ q	& l D r ʒ
17- l j l ʒ	& l " ʒ %	18- g v r h	& g j r k
19- v p l j	& l f l u r e j	20- x j e H k s u	& m l . k H k s u e
21- f l p M	& d ' j k	22- p v u h	& v o y g %
23- f p d u k	& f p d d . l e~	24- B M H k s u	& ' l n H k s u e~
25- H k r k	& H k ʒ	26- H k	& v l s u ʒ ʒ v l s u e~
27- e v B k	& r ʒ e~	28- j l l ʒ	& j l o r t j i d ' k y k e g l
29- j k r k	& j k t ; D r e~	30- j l s h	& j l s d k
31- ' k d j	& ' l d ʒ k	32- l l e k k	& l e k ʒ %
33- l ʒ	& e j ʒ %	34- g h	& f g ʒ
35- v ʒ l B h	& g l ʒ h	36- d v j k	& d v j e~
37- d M g h	& d v g ʒ l o s u h	38- d l p d k f x y k	& d l p d b e j d l p p " l d %
39- f x y k	& d b e j p " l d	40- M	& M / d e ʒ %
41- p e p	& p e l %	42- p l e B k	& l u d ʒ %
43- v o	& n s h	44- R k y h	& L R k y d j R k y d k
45- l y ʒ	& ' j k o %	46- c k v h	& n m p u e~
47- y l s k	& d j d %	48- l v s	& n m e e k u e~
49- c s u	& ɔ s u e~	50- R k d w	& N j d k

u l s & 1 i k d k v e ; U t e ; N g i l j ; M i l l l r l g g l s k A
 2- l H h i ʒ u e s d k i f r ' k f o d Y v l o ; d g A

PAPER-B

Oldj. kr flk Nuh

i vlt %90\$ 10% 100 vd
lle; %3 3kVs

Mi. lñ&i zu i-kdke è e fguhgskAmRjle d k è e l adr] fguh] i x lah; kvzshed sdlsZ, d HkkkgshA

nmf; &

Nkeds Oldj. k l EcU hku dlv] SHhmur djus flkHkkij oSKV- i LR FZObu l fu] l ek] rf/r
i R;] 'kà i] / k q] dñd r flkNuhad kku djukA

(d) Oxt ul fu 5 x 2= 10 vd

([R l ek & } U] r Rq'k 5 x 2= 10 vd

(x) 'kà k(rr-; r]-fde-o l oZrhufyalep-eg- Qcyor-i fya es, oadfr] jk u-o pñd- 2 x 8%16 vd

(R) / k q] (vl]-rñ dñ- 'kd]-i EN]-fey]-d] Oñ- xq] Kñ Jñd fl- kñ 2 x 9%18 vd

(døy yVlyMlyV] yÄ-o fof/ fyÄ-yd k] ç

(M) dñd i R; 5 x 2¼ 10 vd

(X)-i B]-ir] dñM]-on]-i k] fy[k]-uh] n k]-HWRt]-le] vl]-rñ dñ- 'kd]-i EN]-

fey]-d] dñ xq] Kñ Jñd fl&bu / k q] lads; k esD %Dr αñD Rñ req-i R;)

(p) rf/r & i R; (v. k-erñ-rji -rei -& døy mñg]. kñi 20 gñ 4 x 1= 4 vd

(N) Nuh (nksdsgñ lsg]. ky{kki 20 gñ 2 x 6¼12 vd

(vuM]-dñRñ buñt k] mñst k] mit kñ] f k] kñ. kñ elukñd k] ekfuh] d lñfryd k] Hqai zk)&

(t) dñd (døy l kñ fu; e&v' kñ oD lads kñ dñd) 5 x 2 ¾ 10 vd

I gkd i ñd % 'kñs] pñEki d kkuojkk h

ul& 1-i-kdkvè; Ue; Ng iñj; Miñl Ir lg gñkA

2-l Hñi zu lads kñ iñ'k fod Y vñd; d gñA

URDU (Elective)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****Outlines of tests, syllabi and courses of reading.****Paper-A**100 Marks
Time : 3 Hrs.

- | | | |
|----|---|----------|
| 1. | Explanation of Verses : | 30 marks |
| | (i) Ghazal | 20 marks |
| | (ii) Nazm | 10 marks |
| 2. | Explanation of Prose | 30 marks |
| 3. | Central Idea of a lesson or a poem | 20 marks |
| 4. | Introduction and literary contribution of the following poets & prose writers : | 20 marks |

Poets :

1. Mir Taqi Mir
2. Ghalib
3. Nazir Akbarabadi
4. Chakbast
5. Jigar Muradabadi

Prose Writers :

1. Sir Sayyed
2. Mohd. Hussain Azad
3. Hali
4. Prem Chand
5. Rashid Ahmed Siddiqui

Book Prescribed

Khyaban-e-adab compiled by Azim-ul-Haq Junedi, published by Educational Book House, A.M.U., Market, Aligarh.

The following selections from the book Khyaban-e-Adab are prescribed in the course :

1. Ghazliyat
Mir, Dard, Zauq, Ghalib, Momin, Hasrat Mohani, Fani, Jigar, Shad, Azeemabadi and Firaq.

2. Qasida by Ghalib
3. Masnavi by Naseem
4. 'Marsiya-e-Gokhle' by Chakbast
5. Rubaiyat
Akbar Allahabadi and Anis Lucknavi

6. **Nazmen :**

Iqbal :

1. Chand Aur Tare
2. Naseehat
3. Mulla Aur Behisht

Nazir Akbarabadi :

1. Mele Ki Sair
2. Holi Ki Bahar

Chakbast :

Ramayan Ka Ek Scene :

Paper-B

100 Marks

Time : 3 hrs.

1. *Novel and Precis Writing :*
 - (a) Novel : One question on its plot, characterisation, language and style, treatment of situations 40 marks
 - (b) Explanation of a paragraph from the Novel 20 marks
2. *Precis Writing* 40 marks

Book Prescribed

“Ek Chadar Maili Si” by Rajinder Singh Bedi.

PERSIAN (Elective)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013**

Note : There will be two papers of 100 marks each of three hours duration.

Paper-I : PROSE AND POETRY

Max. Marks : 100

Time : 3 hrs.

- | | | |
|----|--|----------|
| 1. | Translation of prose passages into English, Hindi, Urdu, Punjabi or Persian (with choice). | 30 marks |
| 2. | Explanation of poems into English, Hindi, Urdu, Punjabi or Persian. | 30 marks |
| 3. | Summary of any One lesson or poem into English, Hindi, Urdu, Punjabi or Persian. | 10 marks |
| 4. | Basic knowledge of Elements and kinds of Poetry.
(with definitions only) | 15 marks |
| 5. | Knowledge of the elements and kinds of Prose.
(with definitions only) | 15 marks |

Shairi Asnaaf :

1. Ghazal
2. Qasida
3. Masnawi
4. Marsiya
5. Rubai
6. Qata
7. Nazm
8. Khumariyat
9. Hamad
10. Ikhaqi Shayeri

Nasari Asnaaf

1. Dastan
2. Novel
3. Afsana
4. Tazkerah Nawisi
5. Taarikh Nawisi
6. Tanaz-o-Mizah
7. Drama
8. Hikayat Nawisi

Book Prescribed :

Farsi Bray-e-ghair Farsi Zebanan az "Samineh Baghci wan" available at Maktab-e-Jamia, Ansari Road, Near Jama Masjid, Delhi.

Paper-II : TRANSLATION AND LITERARY HISTORY

Max. Marks : 100

Time : 3 hrs.

Note : All the questions carry equal marks.

1. Translation of simplest passage/sentences from Persian into English, Hindi, Punjabi or Urdu.
2. Translation of simplest passage/sentences from English, Hindi, Punjabi or Urdu.
3. Basic knowledge of the different periods of the Literary History of Persian Literature and Medieval Indian History only the following periods :
Samanid, Ghaznavid, Seljuqiyeh, Temurid, Safavid, Moghaliya (Baber to Aurangzeb)
4. The direct and simple questions on the most important, famous and eminent poets and writers.
5. Short note on any One most important and famous books from the above given Historical Periods. Basic and elementary knowledge of the kinds of prose and poetry (Asnaaf-e-Nasr-o-Nazm)

Book prescribed for this paper :

1. Zaban-e- Adabeyat-e-Farsi (Danishgahi)
Movallephaan Dr. Malik Mohd. Farrukh Zaad, Dr. Hussan Ali Mohmdi and Manizheh Falahi,
Published from Tehran, Iran.
2. Tarikh-e-Adabeyat-e-Farsi by Raza Zadeh Shafaq.
3. Amuzish-e-sada-ye-zabaan-e-Farsi (easy way of learning Persian by Majid Ahmedi).

ARABIC (Elective)
(Kept in Abeyance)

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

There will be two papers of 100 marks each

Paper-A 100 Marks
Time : 3 hours

- | | | |
|----|---|----------|
| 1. | Grammar
Mirraat-ul-Arabiya by Dr. M.S. Rehman published by Kutab Khanna
Rashidyya, Delhi-6. | 50 marks |
| 2. | Translation of Arabic into English/Hindi/Urdu. | 30 marks |
| 3. | Use of words into Arabic sentences. | 20 marks |

Paper-B 100 Marks
Time : 3 hours

- | | | |
|----|---|----------|
| 1. | Prose
The following topics of Al' Abarat by Al Manfluti; Al-Yatim and Al-Hijab | 60 marks |
| 2. | Poetry

Nazam-wa-Nasr

The following poets from the book 'Majmu' at Minan :

1. Hafiz Ibrahim
2. 'Abul' Ala'al Mu'arri
3. Al-Farazadaq
4. Hassan B. Thabit | 40 marks |

(All books can be Had from Kutab Khana, Rashidyya, Urdu Bazar, Jama Masjid, Delhi-6)

FRENCH (Elective)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****Paper-A**

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. 20 marks
- II (a) Questions pertaining to the prescribed text of 4 marks each. 20 marks
(b) Questions on French Civilization in the form of fill in the blanks and multiple choice (wherever possible) simple answers of 1-2 sentences of 2 marks each. 20 marks
(c) Dialogue based on the subject or theme from the text. 10 marks
- III *Prose :* 20 marks
Direct simple questions based on the prescribed text to be asked and answered in French, Questions should be of 5 marks each.

CHOICE TO BE GIVEN IN ALL QUESTIONS**Paper-B : APPLIED GRAMMAR, CREATIVE WRITING AND VIVA-VOCE**

Max. Marks	:	100
Theory	:	60 marks
Internal Assessment	:	10 marks
Time	:	3 Hours
Viva-Voce	:	30 marks

- Translation from French into English of an unseen passage or short sentences. 10 marks
- Translation from English into French of an unseen passage or short sentences. 10 marks
- A composition or letter of about 150-200 words. 10 marks
- Questions on grammar including conjugation (in applied form) pertaining to the prescribed text. 30 marks
- Viva-Voce : 30 marks
 - Dictation (an unseen passage of about 100 words), easier than the prescribed Textbook. 10 marks

- | | |
|-------------------------------|----------|
| (b) Conversation. | 10 marks |
| (c) Reading (unseen passage). | 10 marks |

Course of Reading :

Textbook-Campus-II, Jacky Giradet, et Jacques Pêcheur, CLE International, Paris, 2002.

- (a) Livre de l'élève.
- (b) Cahier d'exercices.
- (c) Cassettes.

POETRY : The following 8 poems are to be studied :

1. La Jeune Veuve; La Fontaine Fables (VI, 21) 1968.
2. Le chêne et le roseau.
3. La Marseillaise-Rouget de Lisle.
4. Il n'y a pas d'amour heureux-Aragon.
5. L'Albatros-Baudelaire, Fleurs de mal.
6. Le chat et l'oiseau-Prévert, Histoires, 1946.
7. Chanson des escargots qui vont à l'enterrement-Prévert, Paroles.
8. Le Vase brisé -Sully Prudhomme.

Reference Books for Poetry :

1. French Poetry for students—A Watson Bain.
2. Collections Littéraires—Lagarde et Michard 19e and 20 siècle.
3. A Little Book of French Poetry—Blackie's Little French Classics.

PROSE : Jules Verne, *Le Tour du Monde en 80 Jours*, Texte en français facile, Hachette, Paris.

- N. B. :
1. The compositions and the unseen passages should be based on the vocabulary and grammar covered till B.A. Second Year.
 2. The paper shall be set and answered in French (except translation).
 3. Eight periods of one hour weekly—Six hours for Text and Two hours for Composition.

GERMAN (Elective)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****Paper-A : WRITTEN**

Max. Marks : 100

Time : 3 Hours

10 multiple choice questions of 3 marks each to be asked. This question is compulsory. : 30 marks
 Question in applied grammar (fill in the blanks) conforming to the prescribed book
 "Deutsche Sprachlehre für Ausländer" in einem Band.

4 out of 6 questions to be attempted. : 20 marks

Texte zum lesen and Nachèrzählen i.e. from page 30 onwards. : 20 marks

Question on Culture and Civilisation from Blick auf Deutschland (Page No. 30 to 68) : 20 marks
 excluding lesson 10 a & 10 b.

Internal Assessment (for regular students) : 10 marks

100 marks

Paper-B : (I) WRITTEN

Max. Marks : 100

Time : 3 Hours

Paraphrasing of a poem or stanzas out of the following poems from "German Verse" by : 20 marks
 B.B. Kulkarni & R.N. Chapekar :

1. An den Mond (Johann Wolfgang von Goethe).
2. Erlkönig (Goethe).
3. Abendphantasie (Friedrich Holderlin).
4. Du bist wie eine Blume (Heinrich Heine).
5. Abschied (Joseph Freiherr von Eichendorff).

6. Glück (Hermann Hesse).

7. Der Mai ist gekommen (Emanuel Geibel).

5 simple unseen sentences from German into English (5 out of 7) (unknown words to be given) : 20 marks

5 sentences from English into German (Meaning of unknown words to be given) : 20 marks

60 marks

II : ORAL/PRACTICAL

Reading of text(s) and General Conversation in German. : 30 marks

Internal Assessment (For regular students). : 10 marks

The mode of evaluation for Internal Assessment is to be followed as per University Guidelines.

Prescribed Text Books :

1. Deutsche Sprachlehre für Ausländer in einem Band by Dora Schulz und Heinz Griesbach (Chapter 15 to 26).
2. Texte zum Lesen und Nachzählen by Hans. Joachim Arndt (Max Huber Verlag) (From page 30 to 65).
3. Blick auf Deutschland (page 30 to 68) excluding lesson 10a and 10b.
4. German Verse by B.B. Kulkarni & R.N. Chapekar.

RUSSIAN (Elective)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013**

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

WRITTEN

- | | | |
|----|---|------------|
| I | Translation from simple Russian into English/Hindi/Punjabi (about 120 words). | : 45 marks |
| II | Translation from English/Hindi/Punjabi into Russian (about 80 words). | : 45 marks |

NOTE : USE OF DICTIONARIES IS ALLOWED

Paper-B :	Max. Marks	: 100
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(I) WRITTEN

Theory	: 60 marks
Internal Assessment	: 10 marks
Time	: 3 Hours

- | | | |
|----|--|----------|
| 1. | <i>Composition</i> : (1 out of 3) on the following topics : | 16 marks |
| | (i) Journey/Excursion. | |
| | (ii) Indian/Russian Writer. | |
| | (iii) My Country. | |
| | (iv) Capital City : (India/Russia). | |
| | (v) Our Library. | |
| | (vi) Our University/College. | |
| | (vii) My Friend. | |
| | (viii) A Cultural Evening. | |
| 2. | <i>Applied Grammar</i> : 4 questions (out of 7) of 4 marks each. | 16 marks |
| 3. | <i>Comprehension</i> : 6 questions of 3 marks each (out of 8) on a passage from unseen text(s) to be produced in the question paper. | 18 marks |

4. Question on the texts studied—5 questions (out of 7) of 2 marks each. 10 marks

(II) ORAL 30 marks

Reading of text(s). Conversation/Narration in Russian (day to day incidents/topics).

Books Prescribed :

Wagner, V.N. : RUSSIAN – P.P.H., New Delhi (Lessons 32-45).

OR

Maurya, A.K. : Essential of Russian, University of Delhi, 2004 (Lessons 15-23).

Books Recommended for Additional Readings :

1. Timberlake Reference : Grammer of Russian, Cambridge.
2. Pulkina, I. : RUSSIAN—A Practical Grammar with Exercises, Izdatelstovo, 'Russky Yazik', Moscow, 1980.
3. Anpilogova, B.G. : "ULYBKA" (SMILE), P.P.H., New Delhi.
4. Pulkina, I. : "Uchebnik Ruskova Yazika" Izdatelstovo, Vicshaya Shkola, Moscow, 1964.
5. Dictionaries

BENGALI (Elective)
(Kept in Abeyance)

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A

100 Marks

Poetry	60 marks
Drama	40 marks

Poetry : (a) P.N. Bisi & Tarapada Mukhopadhyaya (Ed.) Kavya Vitan.

The following pieces only :-

1. Vidyapati : 6, 9
2. Chandidas : 8, 10
3. Govindadas : 10
4. Ramprasad : 1
5. Michael Madhusudan : Atma Bilap
6. Satyendra Nath : Champa
7. Jibanananda Das : Mrityur Age
8. Premendra Nath Mitra : Path
9. Sukanta Bhattacharya : Ranar

Drama : (b) Rabindranath : Kahini

The following pieces :

- (i) Karna Kunti Sambad
- (ii) Gandharir Abedan
- (iii) Bhasa O Chhanda

Paper-B

100 Marks

Poetry	40 marks
Drama	40 marks
Composition	20 marks

Poetry : Rabindranath : Sanchayita

The following pieces only :

1. Nirjharer Swapnabhanga
2. Sonar Tari
3. Swarga Hoite Biday
4. Mukti (Naibedya)
5. Balaka
6. Karna Kunti Sambad
7. Phanki
8. Africa
9. Kalika
10. Bansi

Drama : Sri Madhusudan by Banaphul

Composition : A poem or a part of a poem will be given to the students. They are expected to

- (i) Write the central idea of the same.
- (ii) Suggest a title.
- (iii) Annotate a few words; and
- (iv) Comment on the style and diction.

TAMIL (Elective)
(Kept in Abeyance)

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A

Max. Marks : 100

Time : 3 hours

Poetry 50 marks

Prose 50 marks

Total : 100 marks

Paper-B

Max. Marks : 100

Time : 3 hours

1. Collection of Short Stories 50 marks

2. History of Tamil Literature from 10th Century to 17th Century 50 marks

Total : 100 marks

Book Prescribed

Poetry :

Selections in Tamil Poetry for B.A. Part II, 1994-95, Published by the University of Madras, Madras-5.

Prose :

Ilakkiya Nenjam by Dr. M.P. Balasubramanian, Published by Paari Nilaiyam, 184, Broadway, Madras-600108.

Collection of Short Stories :

“Guru Peedam” by Jayakantan, published by Meenakshi Puthanga Nilaiyam, Madurai.

KANNADA (Elective)
(Kept in Abeyance)

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A

100 marks

1. *Poetry* 50 marks
Samakalina Kannada Kavite Bhaga : 3, pages 53 to 90 published by Bangalore University, Bangalore.
2. *Prose* 50 marks
Amerikadalli nanu by Dr. B.G.L. Swami, published by Kavyalaya, Mysore.

Paper-B

100 marks

1. *Grammar* 50 marks
Sandhi, Samasas, Figure of Speech, Metre are to be studied.
2. *History of Kannada Literature* (Medieval period only) 50 marks

MALAYALAM (Elective)
(Kept in Abeyance)

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A 100 : Marks
Time : 3 hrs.

1. *Poetry* : 50 marks

Malayala Kavya Samgraham (poems 11 to 18, 20 and 27), published by National Book Trust, New Delhi.

2. *Prose* : 50 marks

Natappathagal by Punathil (autobiographical essays) published by D.C. Books, Kottayam, Kerala.

Paper-B 100 : Marks
Time : 3 hrs.

1. Grammar : 50 marks

Sandhis, Samasas, Figure of speech and Metre are to be studied.

2. *History of Malayalam Literature* 50 marks

(Medieval period only)

TELUGU (Elective)
(Kept in Abeyance)

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A

100 : marks

Time : 3 hrs.

Poetry
Prose

50 marks

50 marks

100 marks

1. *Poetry* : Draupadi Prabhavamu from Andhra Mahabharatamu, Sabha Parvamu, Aswasam II - Verses from 206 to 264 of any addition.
2. *Prose* : Sahityadhyanam, published by Yuva Barati 5, Kingsway, Secunderabad-3.

Paper-B

100 : marks

Time : 3 hrs.

1. *Grammar* : 50 marks
Rules of Sandhis, Samasas, Figure of Speech and Metre are to be studied.
2. *History of Telugu Literature* (History of Medieval Literature) 50 marks

PHYSICAL EDUCATION**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****PAPER-A :**

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 30 words each. 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 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 and Transfer of Training :

Meaning, definitions, types and methods of motivation.

Importance of motivation in Physical Education and Sports.

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

UNIT-IV

12 Marks

Personality Sports and Socialization :

Meaning, definitions, characteristics, dimensions and traits of personality.

Factors affecting development of personality (Heredity and Environment).

The role of physical activities in Personality Development.

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.

Review of Sports Performance.

Causes of deterioration of Sports Performance.

Suggestions for the improvement of Sports Performance.

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"*, 22nd Edition, 1977, Harper and Row, New York.
5. Clarke, S.K.A. and Fein, G.G. : *"Children : Development through Adolescence"*, John Wiley & Sons, New York, 1983.
6. Cratty, B.J. : *"Psychology and Physical Activity"*, Englewood Cliffs, N.J., Prentice Hall, 1968.
7. Hollander, E.P. : *"Principles and Methods of Social Psychology"*, New York, 1971, Oxford University Press.
8. Linsa, M.I. : *"Child-Adults, Peers : Patterns Communication"*, Progress Publishers, Moscow, 1985.
9. Linggren, H.E. : *"Educational Psychology in the Class Room"*, John Wiley & Sons, New York, 1962.
10. Loy, John W. and Kenyon Gerald, S. : *"Sport, Cultural and Society : A Reader on the Sociology of Sport"*, London, 1969, The MacMillan Co.
11. Hurlock, E.B. : *"Adolescent Development"*, Appleton Century Crofts, New York, 1956.
12. Rushall, Brent S. and Siedentop : *"The Development and Control of Behaviour in Sport and Physical Daryl Education"*, Philadelphia, 1972, Lea and Febiger.
13. Shaphard, R.J. : *"The Fit Athlete"*, Oxford University Press, 1978.
14. Singh, Ajmer et. al. : *Modern Text Books of Physical Education, Health and Sports*, Kalyani Publishers, Ludhiana, 2000.
15. Talamini, John T. and Page & Charles, H. : *"Sport & Society – An Anthology"*, Boston, 1973, Little Brown Co.
16. Walia, J.S. : *"Foundations of Educational Psychology"*, Paul Publishers, Jalandhar City, 1992.
17. Wilmore, Jack H. : *"Athletic Training and Physical Fitness"*, 1977, Allyn and Bacon, Inc., 470, Atlantic Avenue, Boston, Massachusetts.

PAPER-B :

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 30 words each. 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 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 and Digestive Systems :

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.

Meaning, Importance and Organs of Digestive System.

Functions, processes, mechanism and Nerve Regulators of Digestive System.

UNIT-III

12 Marks

Circulatory System and Blood :

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.

Meaning, functions and composition of blood.

Maintenance of blood supply.

Blood groups and their importance.

Blood Clotting.

UNIT-IV

12 Marks

Communicable Diseases, Yoga and Asanas :

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.

Meaning, aim, and types of Yoga. Concept of Hatha Yoga and its relationship with physical, mental and spiritual health.

Meaning, principles and importance of Asanas.

Meditative poses (Padamasna, Vajra Asana, and Sukh Asana), their technique, precautions and effects/advantages.

Cultural poses (Savasna, Halasana, Bhujangasana Sarvangasana, Salbhasana, Dhanurasana and Chkrasana), their technique, precautions and effects/advantages.

UNIT-V

12 Marks

Sports Injuries, Disability and Rehabilitation :

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.

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"*, 10th Edition, 1985, Banarsi Dass Bhanot, Jabalpur, India.
5. Parrot, J.W. : *"Anatomy and Physiology for Physical Education Teachers"*, 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, Pennsilvania, U.S.A.
16. World Health Organisation : *"Health Hazards of the Human Environment"*, Geneva, 1962.

PRACTICAL	Max. Marks	: 70
	Practical	: 60
	Internal Assessment	: 10

ATHLETICS

Jumps (Long jump or triple jump or high 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 jump taught.

GAMES

(Basket ball or foot-ball and any other one game of the choice of the student)

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

Foot Ball : (a) Measurements (foot-ball ground, goal post, ball and flag post).

(b) Number of players and officials.

(c) Fundamental Skills : Types of kicks (low drive, lofted kick, half and full volley and put kick). Dribbling and running with the ball, trapping, receiving and ball control techniques, pass and passing techniques (heading techniques, kicking and shooting practice, goal keeping technique).

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 15 marks, games 15 marks, participation and achievement in sports/games 10 marks, physical fitness 10 marks, viva voce 10 marks and internal assessment 10 marks based on overall performance of a student during the current academic session which will be assessed by the teacher concerned.

- Note :*
1. Pole-vault, Hammer Throw, Hurdles, Relay races and steeple chase race 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 practicals) 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 (Paper A and Paper B) papers shall consist of 65 marks each and practical papers shall consist of 70 marks.
 5. As per the Panjab University Calendar, Chapter XX (page 298) Volume III, 1996, the maximum teaching work load for a Lecturer in Physical Education for B.A. Pass Course is 24 periods per week, which includes theory as well as practicals.
 6. The choice of games by the students shall be confined to the games approved by the Association of Indian Universities.
 7. A student is required to prepare a practical note book of athletic events and games given in the syllabus.
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EDUCATION

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A : 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. 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. : *Vidnyak Manovigyan*, Gujral Book Depot, Patiala, 1999.

Paper-B : 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, 2013**

Max. Marks	:	200
Theory	:	90 Marks
Internal Assessment	:	10 Marks
Time	:	3 Hours
Practical	:	100 Marks

GENERAL INSTRUCTIONS FOR THE PAPER-SETTER :

The question paper will consist of five units : I, II, III, IV and V. Units I, II, III and IV will have two questions from the respective units of the syllabus and will carry 18 marks each. Unit V will consist of **8** short answer type questions which will cover the entire syllabus uniformly and will carry 18 marks in all. Each short question will carry 3 marks.

GENERAL INSTRUCTIONS FOR THE CANDIDATE :

The students will be required to attempt at least one question from each unit I, II, III and IV. The students are required to attempt **6** short 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.

OBJECTIVES OF THE COURSE :

The main objectives of the paper are :

1. To expose students to the psychology of adult learner and the strategies used to motivate them.
2. To provide an overview of concept and strategies of Total Literacy Campaign.
3. To provide the basis of suitability of teaching-learning materials and audio visuals material used for neo-literates.
4. To acquaint students with various agencies of adult education.
5. To expose students with the monitoring methods, procedures and levels of monitoring.
6. To acquaint students with evaluation of Adult Education programme.
7. To acquaint students with adult education and its linkage with development.

THEORY :**Unit-I**

- (i) Psychology of Adult Learners and Motivational Strategies.
- (ii) Total Literacy Campaign : Concept and Strategies.

Unit-II

- (i) Suitability of Teaching – Learning Materials and Audio Visuals; Material for Neoliterates.
- (ii) Suitability of Training Material for Preraks and Nodal Preraks.

Unit-III

- (i) Agencies of Adult Education : Government and Non-Government.
- (ii) Monitoring of Adult Education Program : The Paradigm Context : General Considerations, Need for Monitoring, Components in Monitoring Methods, Procedures and Levels of Monitoring.

Unit-IV

- (i) Evaluation of Adult Education Program : Meaning and Scope, Its Purpose, Preparation of Programs for Evaluation.
- (ii) Adult Education and its linkage with Development.

PRACTICAL/FIELD WORK :

Max. Marks	: 100
External	: 90 Marks
Internal	: 10 Marks

Participation of the students in the following :

- (i) Monitoring of 5 Adult Education Centres.
- (ii) Evaluation of 5 Adult Learners.

Books Recommended :

1. Singh, Madan & Mahanty : *Companion to Adult Education, National Literacy Mission*, Director of Adult Education, Ministry of Human Resources Development, Dept. of Adult Education, New Delhi, 1999.
2. Alan Rogers : *Teaching Adults*, Sterling Publishers Pvt. Ltd., New Delhi, 1989.
3. Mohanty, J. : *Adult & Non-Formal Education*, Deep Publications, New Delhi, 1993.
4. Chopra, R. & Grover, R. : *Adult Education*, the Indian Publications, Ambala Cantt., 1982.

5. Melcoln Tight : *Education for Adults, Vol. I*, Groom Helm, London, 1983.
 6. Ahmad Nasim : *Understanding the Adult Learner : Indian Perspective Literacy Mission*, 1994, Vol. XVII.
 7. Anonymous : *How to Arouse Interest of Adult Learners and Sustain it over a Period of Time, Literacy Mission*, 1988, Vol. XI, No. 10.
 8. Mali, M.G. : *Adult Education in India*, Deep and Deep Publications, New Delhi, 1984.
 9. Nimbalkar, M.R. : *Adult Education and its Evaluation System*, Mittal Publications, Delhi, 1987.
 10. Goyal, G., and Meera Kakar : *Motivation : An Integral Part of Adult Education : Indian Journal of Adult Education*, 1987, Vol. 48, No. 2, p. 31.
 11. Kanwal, R. : *Motivation towards Adult Education*, Criterion Publications, New Delhi, 1990.
 12. Vashist, S. R. : *Adult Education : Issues, Problems and Prospects*, Pointer Publishers & Distributors, 1997.
 13. Reddy, Subba, C.N.V. : *Linkages with Developmental Agencies, in the book 'Research in Adult Education'*, Edited by Bhatia, S.C. and Patil, B.R., Indian Adult Education Association, New Delhi, 1983.
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MUSIC (Vocal)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****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 shall also be sent.
7. In all, nine questions will be set. The question paper will be divided into five units. Four units will contain two questions each. The candidates are required to attempt Five questions selecting at least one question from each unit. The ninth question from unit V based on the Notation shall be **compulsory**.
8. Separate Practical paper shall be set for each session from the syllabus prescribed for Practical Paper-B.
9. There would be upto ten students in one section.

Paper-A : THEORY (3 Hours duration) : 90 marks

Paper-B : PRACTICAL (20 minutes duration) : 90 marks

(i)	Viva	:	70 marks
(ii)	Gayana	:	10 marks
(iii)	Tabla	:	10 marks

Internal Assessment (Theory + Practical) (10 +10) : 20 marks

Total : 200 marks

Paper-A : THEORY**Unit-I**

- 1.1 Historical developments in North Indian Music during medieval period (13th to 17th A.D.).
- 1.2 Brief knowledge of Gram, Murchhana.
- 1.3 Elementary knowledge of Raga-Ragini Vergikaran.

Unit-II

- 2.1 Gharana, its importance and contribution towards Khyal Gayan.
- 2.2 Importance of Tanpura and Sahayak Nada.
- 2.3 Knowledge of Alap, Tana and its various forms.

Unit-III

- 3.1 Brief life sketches of the great masters of Music and their contributions.
 - (i) Ustad Faiyaz Khan Sahib of Agra.
 - (ii) Sh. Krishan Rao Shankar Pandit.
 - (iii) Ustad Amir Khan Sahib.
 - (iv) Pt. Vinayak Rao Patwardhan.
- 3.2 Explain the following :
Upaj, Mukhda, Bol-Alap, Khatka.
- 3.3 Definition of Gamak and its Varieties.

Unit-IV

- 4.1 Description of the Ragas and Talas prescribed in the course :
Ragas—Malkauns, Kedar, Bhairav, Bhimplasi and Bihag.
- 4.2 Knowledge of writing Talas in single and double.
- 4.3 Knowledge of the following Non-detailed Ragas :
Chandrakauns, Kalingda, Kamod and Dhani.

Unit-V

- 5.1 Ability to write the Vilambit and Drut Khayal of ragas prescribed in the course :
Malkauns, Kedar, Bhairav, Bhimplasi and Bihag.

Paper-B : PRACTICAL

- 1. One Drut Khayal in each of the following Ragas with Alaps and Tanas :
Malkauns, Kedar, Bhairav, Bhimplasi and Bihag.
- 2. One Vilambit Khayal in any of the detailed Ragas prescribed in the course with extempore Alaps and Tanas.

3. One Dhrupad in Thah and Dugun layakaries in any of the detailed Ragas prescribed in the course.
4. One Lakshan-Geet in any of the prescribed ragas.
5. Ability to play Ektal and Chautal on Tabla.
6. Ability to recite the following talas in Thah and Dugun layakaries by hand :
Tilwada, Dhamar, Teental and Roopak.
7. Ability to recognize the prescribed Ragas sung by the Examiner.
8. Knowledge of the following Non-Detailed Ragas : Ability to sing their Aroh, Avroh and Pakads
with *Tanpura*; Chandrakauns, Kamod, Kalingda and Dhani.
9. Ability to sing one Drut Khayal of your course with Harmonium.

Books Recommended :

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

MUSIC (Instrumental)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****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 can be used while singing Alankaras.
4. In Instrumental Music, the candidates have the option to take any one of the following instruments : Sitar, Sarangi, Veena, Sarod, Dilruba, Violin, Guitar, Bansuri, Shehnai.
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 shall 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. The candidates are required to attempt Five questions selecting at least one question from each unit. The ninth question from Unit V based on the Notation shall be **compulsory**.
9. Separate Practical paper shall be set for each session from the syllabus prescribed for Practical Paper-B.

Paper A : THEORY (3 Hours duration) : 90 marks

Paper B : PRACTICAL (20 Minutes duration) : 90 marks

(i) Viva : 70 marks

(ii) Gayan : 10 marks

(iii) Tabla : 10 marks

Internal Assessment (Theory + Practical) (10 + 10) : 20 marks

Total : 200 marks

Paper-A : THEORY**Unit-I**

1. Historical developments of Indian music during medieval period i.e. 13th to 17th Century.
2. Gamak and its varieties.
3. A study of Shudh raga, Chhayalag raga, Sankirna raga.

Unit-II

1. Definitions and explanations of the following musical terms :
Various Bols of Mizrab, Alap, Jod, Kan, Andolan, Chal-Achal Thata, Kampan, Meend, Ghaseet, Zamzama, Krintan.
2. Meaning and definition of Gharana and its importance in Indian Classical Music.
3. Classification of Indian Musical Instruments.

Unit-III

1. The life sketches and contributions of the following musicians :
 - (i) Ustad Inayat Khan.
 - (ii) Ustad Vilayat Khan.
 - (iii) Pt. Lal Mani Mishra.
 - (iv) Ustad Abdul Halim Zaafar Khan.
2. Knowledge of Avirbhava-Tirobhava and Alpatva—Bahutava with example.

Unit-IV

1. Description of the prescribed ragas and talas :
Ragas : Bhairav, Bihag, Durga, Malkauns and Kamod.
Talas : Ektal, Deepchandi, Tilwara, Tivra.
2. Description of the following Non-detailed ragas :
Shankara, Kalingada, Chhaya Nat.

Unit-V

Knowledge of writing notation of Vilambit gat and Drut gat in the prescribed Ragas :
Bhairv, Bihag, Durga, Malkauns and Kamod.

Paper-B : PRACTICAL

1. One Razakhani (Drut) Gat with Toras and Jhalas in each of the following ragas :
Bhairav, Bihag, Durga, Malkauns and Kamod.
2. One Maseetkhani (Vilambit) Gat with Alaps & Toras in any of the prescribed detailed ragas.
3. A knowledge of the following non-detailed ragas with Aroh, Avroh & Pakad :
Shankara, Kalingada, Chhayanaat.

4. One Gat in Madhaya laya Ektal.
5. Use of one Swara Meend and Kan.
6. Ability to play Ektal and Teental on Tabla.
7. Ability to sing five Alankaras of Shudh Swaras with the help of Harmonium.
8. Ability to demonstrate the following talas by hands in Ekgun and Dugun Layakaries :
Talas : Ektala, Deepchandi, Tilwara, Tivra.

Books Recommended :

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|----|-------------------------------------|---|--|
| 1. | <i>Rag Prichaya Part III and IV</i> | : | H.C. Srivastava, Sangeet Sadan Prakashan, 134, South Malaka, Allahabad. |
| 2. | <i>Sangeet Bodh</i> | : | S.S. Paranjape, Madhya Pradesh Hindi Granth Academy, Bhopal. |
| 3. | <i>Hamare Sangeet Ratan</i> | : | Sangeet Karyalaya, Hathras. |
| 4. | <i>Sangeet Sar-Part II</i> | : | Mrs. Veena Mankaran, Raj Publishers (Regd.), Adda Tanda, Jalandhar City. |
| 5. | <i>Sangeet Shastra Vigyan</i> | : | Panna Lal Madan, Abhishek Publication, Chandigarh. |
| 6. | <i>Rag-Vigyan</i> | : | Pt. V. Patwardhan. |

TABLA (Instrumental Music)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****General Instructions**

1. In the case of 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. (a) In all, nine questions will be set from the whole syllabus.
 (b) The question paper will be divided into five units. First four units will contain two questions each, out of which candidates are required to attempt one question from each unit.
 (c) Unit fifth will be **compulsory** which will be based on Notation.
 (d) The candidates are required to attempt five questions.

Paper-A : THEORY (3 Hours duration) : 90 marks

Paper-B : PRACTICAL (20 minutes duration) : 90 marks

(i)	Viva	:	60 marks
(ii)	Harmonium	:	10 marks
(iii)	Tabla	:	10 marks
(iv)	Padhant on Hand	:	10 marks

Internal Assessment (Theory & Practical) (10 + 10) : 20 marks

Total : 200 marks

Paper-A : THEORY**UNIT-I**

- (a) Origin and Evolution of Tala.
- (b) Brief study of Ten Pranas of Tala.
- (c) Definition of Tisra, Chatasra, Khand, Mishra and Sankeern.

UNIT-II

- (a) Definition with examples of the followings :
 Uthan, Gat, Rau, Chakradar, Nagma.

- (b) Ability to write in notation the Dugun, Tigun and Chaugun of the following talas : Teentaal, Ektaal, Jhaptal, Sultal, Adachautal, Dadra, Kehrwā.
- (c) Explanation of playing techniques of the following : Dhage, Tirkit, Ghe-Ghe Rela, Kradhatita, Gadigan, Kdan, Ghednag-Kednag.

UNIT-III

- (a) Knowledge of Uttar Bhartiya Taal system.
- (b) Knowledge of Karnatak taal system.
- (c) Introduction of V.D. Palaskar Tala Notation system.

UNIT-IV

- (a) Importance of Gharanas of Tabla-Vadan.
- (b) History of Playing Techniques of Lucknow & Farrukhabad Gharanas.
- (c) Life sketches and contribution of following :
 - Ustad Abid Hussain.
 - Ustad Ahmedjan Thirkuwa.
 - Ustad Amir Hussain Khan.

UNIT-V

Ability to write in notation of compositions and layakaries in following Talas : Teentaal, Jhaptal, Roopak, Deepchandi, Tivra.

Paper-B : PRACTICAL

- (a) Tala prescribed Rupak, Tivra, Jhaptal, Sultal. Deep Chandi and Jhumra Talas.
 - (i) Proper Badhat of the following Talas by hand on Tabla or Pakhawaj : Rupak, Tivra, Jhaptal, Sultal.
 - (ii) Two laggies in Dadra and two in Keharwa.
 - (iii) Theka of Jhumra Tal in Vilambit Laya.
 - (iv) Sultal-Tukras, Parans Bedam Tehais, Damdar Tehai, Chakradar Paran and Rela. Jhaptal : One Qaida, One Peshkar, One Gat and Rela. Rupak : Peshkar, Gat, Qaida, Paran and Chakardar Paran.

- (v) Practical knowledge of playing Deep Chandi with Thumri.
- (vi) Tivra : Playing Theka of Tivra in Ekgun, Dugun and Chaugun layakaries.
- (b) Practice of playing the above mentioned Talas with Vocal and Instrumental Music.
- (c) Knowledge of Shudh and Vikrit Swaras.
- (d) Practice of playing Nagma on Harmonium in Roopak, Suttal and Jhaptal.
- (e) Tuning of Tabla.

Books Recommended :

1. *Taal Prichaya Part I & II* : G.C. Shrivastva.
2. *Taal Martand* : B.S. Sharma.
3. *Bhartiya Talon Ka Shastriya Vivechan* : Arun Kumar Sen.
4. *Bhartiya Sangeet Vadya* : L.M. Mishra.
5. *Hamare Sangeet Ratna* : Sangeet Karyalaya Hathras.
6. *Tabla Vadan – Part-II Publication (Pbi. University, Patiala)* : Manmohan Sharma

INDIAN CLASSICAL DANCE**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****General Instructions**

1. In the case of 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. The question paper will be divided into five units. Four units will contain two questions each. The candidates are required to attempt five questions selecting at least one question from each unit. The ninth question from Unit V based on notation shall be **compulsory**.
3. Harmonium will be allowed to play Nagma.
4. The practical paper shall be set from the syllabus prescribed for Paper-B (Practical)

Paper-A : THEORY (3 hours duration) : 90 marks

Paper-B : PRACTICAL (20 minutes duration) : 90 marks

(i)	Viva	:	70 marks
(ii)	Harmonium	:	05 marks
(iii)	Tabla	:	05 marks
(iv)	Padhant on Hand	:	10 marks

Internal Assessment (Theory + Practical) (10 + 10) : 20 marks

Total : 200 marks

Paper-A: THEORY**Unit-I**

1. Definition of the following :
Bharamari, Chari, Astooti, Gati, Paran.
2. Development of Kathak Dance in Mughal period.
3. Survey and essential characteristics of Bharta Natyam.

Unit-II

1. Knowledge of Solo and Group dance.
2. Survey of 13 Samyukta Mudra based on Abhinaya Darpan.
3. General study of Gharanas of Kathak dance and their comparison.

Unit-III

1. Biography and the contribution of the following dancers in their respective field of specialization :
 - (i) Maharaj Sunder Prasad.
 - (ii) Pt. Shambhu Maharaj.
 - (iii) Pt. Birju Maharaj.
2. Knowledge of four folk dances of Himachal Pradesh.

Unit-IV

1. Brief study of Thumri in dance.
2. Importance of Gayan and Vadan.
3. Guru Shishya Parampara

Unit-V

Knowledge of writing notation of Talas, Amad, Tihai and Lehra.

Paper-B : PRACTICAL

1. Adachautal (Matra-14)
 - (i) Simple Tatkar with Dugun and Chaugun Layakaries.
 - (ii) Tora : 4
 - (iii) Amad : 1
 - (iv) Salami : 1
 - (v) Paran : 2
 - (vi) Chakardar Paran : 1
2. Teental
 - (i) Two Simple Tatkar
 - (ii) Amad : 1
 - (iii) Tora : 2
 - (iv) Paran : 1
 - (v) Chakardar Tora : 1
 - (vi) Kavita : 1

3. Four Gat Nikas.
4. Padhant of all Tukra, Tora, Paran, Chakardar Paran by hand.
5. Theka of all the Talas in Single, Dugun and Chaugun Layakaries by hand.
6. Ability to play Nagma in Adachautal.
7. Theka of following Talas on Tabla in Ek-gun and Dugun Layakaries :
 - (i) Dadra.
 - (ii) Keharva.
8. Practical demonstration of the folk dance of Punjab.

Books Recommended :

1. *Nritya Prashan Panjika* : J.N. Pathak
 2. *Kathak Nritya Shiksha* : Puru Dadhich.
 3. *Nritya Prabhakar Prashanotri* : J.N. Pathak.
 4. *Kathak Darpan* : T.R. Azad.
 5. *Kathak Shingar* : T.R. Azad.
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FINE ARTS

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A : THEORY (History of Art)

Max. Marks : 60

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	

SESSIONAL MARKS : 50 (based on work related equally to 3 sections).

Note : Minimum of nine hours teaching per week be assigned to the subject and out of nine hours, six hours be ear-marked for practical classes and three hours for theory classes (per week).

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.

Paper-A : THEORY (History of Art)

Max. Marks : 60

Time : 3 Hrs.

INSTRUCTIONS FOR PAPER SETTER AND CANDIDATES:

1. The paper carries 60 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 10 questions spread over the whole syllabus. Each question is to be answered in about 25 to 30 words. It shall carry 20 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 10 marks.

Unit-I : History of Indian Painting

- Decorative Designs and Painting of the 1439 Kalpasutra Manuscript.
- Manuscript Paintings of Chaurapanchashika and Nimat Nama.
- 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

- Gandhara– Fasting Buddha and Mahaparinirvana.
- Mathura–Portraits of the Kushana Kings.
- Sarnath–Seated Buddha.
- Deogarh–Vishnu Anantashayana.
- Ellora –Ravana Shaking Mount Kailasha.
- Mahabalipuram–Descent of Gangas (Kiratarjuniyam panel).

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.
- 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, Composition – Volume, Texture, Space Unity, Harmony, Rhythm, Proportion, Piece-mould, Waste mould, 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.

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	

Note : The same paper setter will be requested to set papers in all the three options in Section III.

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.

<i>Medium</i>	:	Oil, Water or Pastel colours.
<i>Size</i>	:	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)

<i>Medium</i>	:	Pen & Ink, Poster Colours.
<i>Size</i>	:	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 five 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.

HISTORY OF ART

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A : HISTORY OF INDIAN PAINTING (from ca. 9th century to ca. 1800 A.D.) AND SCULPTURE (from ca. 4th century A.D. to ca. 6th century A.D.) Max. Marks : 100
Time : 3 Hours

Note :

1. 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.
2. 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.
3. 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.

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.

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

Max. Marks : 100

Time : 3 Hours

Note :

1. 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.
2. 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.
3. 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.

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–Leonardo Da Vinci, Michelangelo, Raphael, Titian.

Unit-II

Baroque Period–Caravaggio, Rubens, Rembrandt, Bernini, Claude Lorraine.

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.
- (b) Six limbs of Indian Painting 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. Gardener, 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, Niharanjan : *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, 2013****Paper-A : HISTORY AND CULTURE OF INDIA FROM 320 A.D. TO 650 A.D.****Objectives :**

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

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

1. The theory question paper will be of 90 marks and 10 marks will be for internal assessment.
2. For Private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
The paper-setter must put note (2) in the question paper.
3. The paper-setter is required to set **9** questions in all. All questions shall carry equal marks. The paper shall be of 3 hrs. duration.
4. The first question shall be of short answer type containing 15 short questions spread over the entire syllabus. The candidate is required to answer any 9 short answer type questions. Each short answer type question shall be of 2 marks **OR** A question on map. The map work shall consist of 12 marks for the map and 06 marks for the explanatory notes.
5. The map question shall have the following topics :
 - (a) Extent of Chandragupta II's empire.
 - (b) Extent of Harsha's empire.
 - (c) Distribution of monuments of the Gupta-Vakataka period.
6. The rest of the paper shall contain 4 Units. The entire syllabus has been divided into 4 Units. The paper-setter shall set 2 questions from each unit and the candidate shall be given internal choice i.e. the candidate shall attempt one question from each unit. Each question shall carry 18 marks.

UNIT-I

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

UNIT-II

1. Decline of the Gupta Empire.
2. The Gupta administration.
3. Cultural and Economic achievements during the Gupta period.

UNIT-III

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

UNIT-IV

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

Pedagogy of the Course Work :

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

Essential Readings :

1. Agrawal, Ashvini : *Rise & Fall of the Imperial Guptas*, Delhi, 1989.
2. Altekar, A.S. & Majumdar, R.C. : *The Vakataka-Gupta Age*, rpt., Delhi, 1967.
3. Majumdar, R.C. & Dasgupta, K.K. (Eds.) : *The Comprehensive History of India, Vol. III*, Pt. 1, Delhi 1981, (Chapters Dealing with the Gupta and the Post Gupta History).
4. Majumdar, R.C. : *Ancient India*, rpt., Delhi, 2003.
5. Mookerji, R.K. : *The Gupta Empire*, Bombay, 1952.
6. Tripathi, R.S. : *History of Kanauj*, Delhi, 1964.
7. Tripathi, R.S. : *History of Ancient India*, rpt., Delhi, 1977.

Paper-B : HISTORY AND CULTURE OF INDIA FROM 650 A.D. TO 1200 A.D.**Objectives :**

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

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

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

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

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

UNIT-I :

1. Pratiharas
2. Palas

UNIT-II :

1. Paramaras
2. Chahamanas

UNIT-III :

1. Gahadavalas
2. Chandellas

UNIT-IV :

1. Rashtrakutas
2. Cholas.

Pedagogy of the Course Work :

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

Essential Readings :

1. Majumdar, R.C. : *Ancient India*, rpt., Delhi, 2003.
2. Puri, B.N. : *The History of the Gurjara-Pratiharas*, Delhi, 1986.
3. Majumdar, R.C. : *History & Culture of Indian People*, Vol. IV, *The Age of Imperial Kanauj*, Bombay, 1955 (Relevant Chapters)
Vol. V, *The Struggle for Empire*, Bombay 1957 (Relevant Chapters)
4. Sastri, K.A.N. : *A History of South India*, Madras, 1955.
5. Tripathi, R.S. : *History of Ancient India*, rpt., Delhi, 1977.
6. Ray, H.C. : *Dynastic History of India*, 2 Vols, Calcutta 1931,1936.
7. Altekar, A.S. : *Rastrakutas and Their Times*, Poona, 1967.
8. Bhatia, Pratipal : *The Paramaras*, New Delhi, 1970.

DEFENCE & STRATEGIC STUDIES

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

- Note :*
1. There will be two theory papers A and B carrying 70 marks each. The internal assessment will be of 10 marks for each of the two papers and 40 marks are kept for the practical test. Each 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, there will be four sections of the question paper. The candidate will be required to attempt one question from each of these sections carrying 12 ½ marks. Each theory paper will be of three hours duration. The practical test will be of 1 ½ hours duration.
 2. Practical examination will be compulsory for regular, correspondence and private candidates. The serving armed forces and para-military personnel will be exempted from practical examination and marks secured by such candidates out of 140 will be proportionately raised out of 200.
 3. The persons appearing as private candidates (except serving armed forces and para-military personnel) shall have to complete the requirement of attending the practical at the Department of Defence & National Security Studies, Panjab University, Chandigarh, in January every year, after paying the required fee as prescribed by the University from time to time. Private candidates shall have to attend practical classes for 10 hours spread over two to three days for which the certificate shall be issued by the Chairman, Department of Defence & National Security Studies, Panjab University only.
 4. For reappearing candidates, who have not been assessed earlier for internal assessment and practical examination, their marks will be increased proportionately upto 100 marks for each of two papers.

Paper-A: CONCEPT OF WARFARE

Marks : 70
Time : 3 Hrs.

Objective :

This paper deals with the conceptual aspects of warfare focuses on the various aspects of warfare from conventional to Nuclear age.

SECTION-I

1. War—Its definition and concept.
2. Principles of War : Historical Development, Meaning, Importance and Practical Application.

SECTION-II

3. Modern War : Meaning, Historical Development, Features and Humanisation of War.
4. Non-Conventional Warfare with reference to Guerrilla War, its Origin, Principles and Techniques.

SECTION-III

5. Nuclear War : Beginning of Nuclear Era, Effects of Nuclear explosions, Nuclear strategy, Deterrence, Missiles and their classification.

SECTION-IV

6. Psychological aspects of war, Leadership, Motivation, Morale, Discipline, Panic and Fear.

Books Recommended :

1. Palit, D.K. Maj. Gen. : *War in the Deterrent Age.*
2. Montgomery, Field Marshal : *A History of Warfare.*
3. Tripathi, K.S. : *Evolution of Nuclear Strategy.*
4. Mao-Tse-Tung : *Guerilla Warfare.*

General Readings/References :

1. Fuller, J.F.C. : *Armament and History and the Conduct of War.*
2. Liddle Hart : *Strategy of Indirect Approach.*
3. Brodie Bernard : *Strategy in the Missile Age.*
4. Osanka, F.M. : *Modern Guerilla Warfare.*
5. Gerald, J. : *Defence Psychology.*
6. Boring, E. : *Psychology in the Armed Force.*
7. JFR Jacob : *Surrender at Dacca, Birth of a Nation.*

Paper B : INTERNATIONAL RELATIONS : STRATEGIC ASPECTS

Marks : 70

Time : 3 Hours

Objective :

This paper focuses on the various attributes of international relations and its role in maintaining peace & security.

SECTION-I

1. *National Interest and War* : Definition of National Interest, its relationship with security, Foreign Policy and War as an instrument of National Policy.
2. *Balance of Power* : Meaning, Historical Development, Evaluation and its functioning.

SECTION-II

3. *Cold War* : Definition, Causes, Means, Diplomatic, Psychological, Economic effects and Perspective.

SECTION-III

4. *Collective Security* : Meaning and Concept; Role of United Nations, Organisation in maintaining Collective Security.

SECTION-IV

5. *Disarmament and Arms Control* : Meaning and Concept; Efforts by UNO towards its achievement.

Books Recommended :

1. Palmer and Perkins : *International Relations.*
2. Mahendra Kumar : *Theoretical Aspects of International Politics.*
3. Hasan Qamar : *Psychology for the Fighting Man.*

General Readings/References :

1. Morgenthau, H. : *Politics Among Nations.*
2. Halperin Morton : *Limited War in the Nuclear Age.*
3. Khapp, W. : *A History of War and Peace.*
4. Lawrence Robert M. : *Arms Control and Disarmament.*
5. Flemming, D.F. : *The Cold War and its Origin.*
6. Lucas : *A History of Cold War.*
7. Frankel Joseph : *The Making of Foreign Policy.*

Paper-C : PRACTICAL

Max. Marks : 40

Time : 1 ½ hours

- Note :*
1. Practical examination will be compulsory for regular, correspondence and private students.
 2. There will be five questions in all and candidates will be required to attempt any three questions of ten marks each.

3. Examiners are required to set the question paper at least half an hour before the examination.
4. There will be 3 hours of teaching per week for practical.
5. For practical classes, the number of students in one group shall not exceed fifteen.
6. Practical exercises should be carried out on drawing sheets with explanatory notes or on computer.

SECTION –A : Practical Test**Marks : 30**

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.
4. *Setting of Map* : With Compass and without compass.
5. *Marching by Compass* : To set the compass in a particular direction for night march.
6. *Finding Position on the Map* : Determine one's and enemy's position on the map by resection and intersection method.

SECTION-B : Practical Record

:

Marks : 5

SECTION-C : Viva-Voce

:

Marks : 5

HISTORY

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

General Instructions : (For Papers A & B)

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

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

Explanation :

1. Each essay type question would cover about one-third to one half of a topic detailed in the syllabus.
2. The distribution of marks for the map question would be as under :

Map	: 10 marks
Explanatory Note	: 08 marks

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

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

Paper A : 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 history of India in Modern times.

Pedagogy : Lectures, library work and discussions.

Unit-I

1. *Foundation of British Rule* : The battles of Plassey and Buxer 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; commercialization of agriculture; rural indebtedness; deindustrialization and growth of modern industry; theory of economic drain.
5. *Socio-Religious Reform Movements* : Brahmo Samaj; Aligarh Movement; Arya Samaj; Ramakrishna Mission; Swami Vivekananda's contribution.
6. *Depressed Classes Movement* : Contribution of Jotiba Phule, B.R. Ambedkar and Mahatma Gandhi.

Unit-III

7. *Growth of Political Consciousness* : Causes for the growth of political consciousness/nationalism; foundation of the Indian National Congress; national movement upto 1919.
8. *Indian National Movement* : Gandhi's emergence; circumstances leading to the non-cooperation movement and its significance; demand for complete independence; 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, 1947-66* : Making of the constitution; integration of Princely states; the reorganisation of states.
12. *Map* :
 - (a) *Important Historical Places* – Delhi, Calcutta, Madras, Bombay, Goa, Pondicherry, 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.

Paper B : HISTORY OF THE PUNJAB, 1469-1966 A.D.

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

Objectives : To introduce the students to the history of Punjab since medieval times.

Pedagogy : Lectures, library work and discussions.

Unit-I

1. *Guru Nanak Dev* : Life and Teachings of Guru Nanak; concept of langar, sangat, guru gaddi; his views on position of women.
2. *Expansion and Consolidation of Sikhism* : Contribution of Guru Angad, Guru Amar Das and Guru Ram Das.
3. *Guru Arjan Dev* : His contribution to the Panth; compilation of the Adi Granth; causes and significance of the martyrdom of Guru Arjan Dev.

Unit-II

4. *Development of Sikhism* : Guru Hargobind's new policy and its justification; martyrdom of Guru Tegh Bahadur and its significance.
5. *Creation of the Khalsa* : Circumstances leading to the creation of Khalsa and its significance; the new injunctions and symbols of the Khalsa; post Khalsa activities of Guru Gobind Singh.
6. *Banda Singh Bahadur* : Establishment of independent rule; his achievements; socio-economic transformation.

Unit-III

7. *Punjab under Ranjit Singh* : Civil & military administration; land revenue system; Anglo-Sikh relations upto 1839.
8. *British Rule* : Circumstances leading to the annexation of the Punjab; British administrative structure.
9. *Socio-Religious Reform Movements* : Nirankaris, Namdharis; Singh Sabha.

Unit-IV

10. *The Phases of Freedom Struggle* : Agitation of 1907; the Ghadar Movement; the Jallianwala Bagh; the Gurudwara Reform Movement; Circumstances leading to the partition of the Punjab.
11. *Developments After Independence* : Rehabilitation and resettlement after partition; Punjabi Suba movement; the Reorganisation Act of 1966; agrarian changes.
12. *Map* :
 - (a) *Important Historical Places* – Amritsar, Goindwal, Anandpur Sahib, Chamkaur Sahib, Kiratpur, Kartarpur, Paonta Sahib, Sirhind, Muktsar, Tam Taran, Lahore, Machhiwara, Ropar and Kapurthala.
 - (b) Battles of Banda Bahadur.
 - (c) Ranjit Singh's Kingdom.

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

POLITICAL SCIENCE

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

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 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.

Paper-A : 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.

Unit-I

1. Constituent Assembly and making of India's Constitution.
2. Basic Features of Indian Constitution.
3. Preamble and its importance.
4. Nature of Indian Federalism and Centre State relations.

Unit-II

1. Human Rights : An overview, National Human Rights Commission and Punjab State Human Rights Commission.
2. Fundamental Rights and Fundamental Duties.
3. Directive Principles of State Policy.

Unit-III

1. President : Election, powers, position and changing role.
2. Parliament : Composition, powers and role.
3. Indian Cabinet and Prime Minister : Election, powers, position and changing role.
4. Supreme Court : Judicial Review, Public Interest Litigation, Judicial Activism.

Unit-IV

1. Governor : Appointment, powers and role.
2. State Legislature : Composition, powers and role.
3. Council of Ministers and Chief Minister : Election, powers, position and role.
4. High Court : Composition, powers and role in the Indian Constitutional process.

Paper-B : INDIAN POLITICS**Objectives :**

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

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.

Unit-I

1. Nature of party system in India : A critical evaluation.
2. National Political Parties [Indian National Congress, BJP, CPI, CPI(M), BSP] : Organization, Ideology and Electoral performance.
3. Regional Political Parties (SAD, NC, DMK, Telegu Desam) : Organization, Ideology and Electoral performance.

Unit-II

1. The Election Commission : A critical evaluation and electoral reforms in India.
2. Pressure Groups in Indian Politics.
3. Voting Behaviour in India.

Unit-III

1. Emerging Trends in Indian Politics.
2. Caste, Religion and Language in Indian Politics.
3. Regionalism in Indian Politics.
4. Liberalisation and Indian Politics.

Unit-IV

1. Basic principles and determinants of Indian Foreign Policy.
2. Non-alignment : Meaning and Relevance.
3. Role of India in Non-alignment Movement.

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. C. Raja Mohan, *Crossing the Rubicon : The Shaping of India's New Foreign Policy*, Palgrave Macmillan, 2004.
5. G. Austin, *The Indian Constitution : Corner Stone of a Nation*, Oxford, Oxford University Press, 1966.
6. G. Austin, *Working a Democratic Constitution : A History of the Indian Experience*, New Delhi, Oxford University Press, 1999.
7. D.D. Basu, *An Introduction to the Constitution of India*, New Delhi, Prentice Hall, 1994.
8. C.P. Bhambri, *The Indian State Fifty Years*, New Delhi, Shipra, 1997.
9. P. Brass, *Politics of India Since Independence*, Hyderabad, Orient Longman, 1990.
10. P. Brass, *Caste, Faction and Party in Indian Politics, Vol. II : Election Studies*, Delhi, Chanakya Publications, 1985.
11. P. Brass, *Ethnic Groups and the State*, London, Croom Helm, 1995.

12. P. Brass, *Language, Religion and Politics in North India*, London, Cambridge University Press, 1974.
13. B.L. Fadia, *State Politics in India, Vol. II*, New Delhi, Radiant Publishers, 1984.
14. F.R. Frankel, *India's Political Economy 1947-2004 : The Gradual Revolution*, Oxford, Oxford University Press, 2005.
15. R. Kothari, *State Against Democracy : In Search of Human Governance*, Delhi, Ajanta, 1988.
16. R. Kothari, *Politics in India*, New Delhi, Orient Longman, 1970.
17. R. Kothari, *Party System and Election Studies*, Bombay, Asia Publishing House, 1967.
18. Iqbal Narain (ed.), *State Politics in India*, Meerut, Meenakshi Parkashan, 1967.
19. M.V. Pylee, *Constitutional Government in India*, Bombay, Asia Publishing House, 1977.
20. M.V. Pylee, *An Introduction to the Constitution of India*, New Delhi, Vikas, 1998.
21. S.P. Verma, and C.P. Bhambri (ed.), *Election and Politics Consciousness in India*, Meerut, Meenakshi Parkashan, 1967.
22. Partha Chatterjee (ed.), *State and Politics in India*, Oxford University Press, 1999.
23. Zoya Hasan, E. Sridharan and R. Sudarshan (ed.), *India's Living Constitution : Ideas, Practices, Controversies*, Permanent Black, New Delhi, 2004.
24. Niraja Gopal Jayal (ed.), *Democracy in India*, Oxford University Press, Delhi, 2001.
25. A.G. Noorani, *Constitutional Questions in India*, Oxford University Press, 2000.
26. Zoya Hasan, *Parties and Party Politics in India*, Oxford University Press, New Delhi, 2002.

ECONOMICS

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper–A : MACRO-ECONOMICS

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

Course Objective : This paper aims to familiarize the student with the generally accepted principles of macroeconomics. It deals with aggregates i.e. consumers as a whole, producers as a whole, exporters and importers as a whole, the effects of government spending and taxation, and the monetary policy of the central bank.

The course includes the basic theories of determination of income, consumption, investment, employment, money and interest, inflation, Monetary and Fiscal policies, and business cycles.

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

Meaning and Scope of Macro-Economics.

Determination of Income and Employment : Classical and Keynesian Theory of Income, Output, Employment. Say's Law of Markets, Aggregate Demand and Supply Functions.

Unit-II

Consumption and Investment Functions : Average and Marginal Propensity to Consume; Static and Dynamic Multiplier; Marginal Efficiency of Capital. Investment : Types, Investment Demand Schedule and Factors Affecting Investment Decisions.

Unit-III

Theories of Money and Interest :

Money : Its Functions and Role, Money Market and Capital Markets.

Quantity Theory of Money : Fisher's Equation, Cambridge Equation and Keynesian Theory.

Liquidity Preference Theory of Rate of Interest.

Banking : Major Functions of Commercial Banks. Credit Creation and Credit Control.

Unit-IV

Inflation and Macro-Economic Policies; Theories of Inflation; Cost-push and Demand-pull, Measures to Control Inflation. Monetary and Fiscal Policies for Stabilization.

Trade Cycle : Meaning and Phases.

Recommended Readings :

1. T.F. Dernburg and D.M. McDougal : *Macro Economics*, McGraw Hill, New York, 1983.
2. O.P. Sharma (Punjabi Medium) : *Macro Economics*, Punjabi University, Patiala.
3. Ranjit Singh Ghuman : *Antar-Rashtriya Arth Vigyan*, Punjabi University, Patiala.
4. M.C. Vaish (Latest ed.) : *Macro Economic Theory*, Oxford University Press, New Delhi.
5. J. Harvey and M. Johnson : *Introduction to Macro Economics* (1971), McMillan, London.
6. M.L. Jhingan : *Macro Economic Theory*, Varinda Publishers, Delhi, 2003.

Supplementary Readings :

1. Gardner Ackley : *Macro Economic Theory*, 1985, McMillan, New York.
2. C.W. Baird : *Elements of Macro Economics*, 1977, West Publishing Company.

Note : Four to five lectures of 45 minutes each per week are required to complete the syllabi.

Paper– B : 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 its people 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 : Principles of Public Finance (Maximum Social Advantage), Effects of Public Expenditure on Production and Distribution. Causes for the Recent Growth of Public Expenditure in India.

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

Unit-II

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

Deficit Financing : Objectives and Limitations.

Incidence and Impact of Taxation : Demand and Supply Theory.

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

Unit-III

Pure Theory of International Trade : Classical, Heckscher and Ohlin Theories; The Principles of Reciprocal Demand and Terms of Trade.

Commercial Policy : Free Trade Vs. Protection, Rationale of Protectionist Policy in Less Developed Areas, Impact of W.T.O. on Less Developed Countries.

Unit-IV

Theory of Balance of Payments and Exchange Rate : Meaning, Concepts and Components of Balance of Payments. Disequilibrium in the Balance of Payments : Causes and Measures to correct the disequilibrium.

Rate of Exchange : 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. A.R. Musgrave and P.B. Musgrave : *Public Finance in Theory and Practice*, McGraw Hills, International Students' Edition, 1976.
2. C.P. Kindleberger : *International Economics*, Richard Irwin Homewood, Illinois, Indian Edition (1987).
3. B.O. Soderston : *International Economics*, McMillan Press Ltd., 1990.
4. O.P. Sharma : *Sarvjanik Vit*, Punjabi University, Patiala.
5. Ranjit Singh Ghuman : *Antar-Rashtriya Arth Vigyan*, Punjabi University, Patiala.

Supplementary Reading :

- H. Dalton : *Principles of Public Finance*, Routledge and Kegan Paul, London (1954).

Note : Four to Five lectures of 45 minutes each per week are required to complete the syllabi.

SOCIOLOGY

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A : 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. The students are required to attempt one question from each of the four units.

- (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 to both conceptual and theoretical understanding of society. Students are introduced to the structural-functional approach and the contributions of various thinkers are discussed to understand the meaning, process and factors of social change.

Course Content

Unit-I

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

Structural-Functional Approach : Contributions of Radcliffe Brown.

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, Scientific and Technological, Educational, Legislative.

Unit-IV

Processes of Social Change : Sanskritization, Westernization, Modernization, Secularization and Globalization.

Essential Readings :

1. Bierstedt, Robert (1970) : *Social Order*, New York : McGraw Hill.
2. Haferkamp, 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 (2010) : *Readings in Sociology – Part-2*, Jalandhar : New Academic Publishing House (All Mediums).
5. Moore, Wilbert (1965) : *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. Redcliffe-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.

Paper-B : SOCIAL STRATIFICATION

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. 1 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. The students are required to attempt one question from each of the four units.

- (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 :

All over the world, social groups are differentiated from one another and often ranked in terms of certain criteria. In this paper, students are exposed to the theoretical understanding of social stratification. In the Indian context, it is pertinent to apprise the students to the concept of social mobility and various factors that contribute to it. The major purpose of this course is to prepare the students to understand the hierarchical structure of groups in various societies and help them understand the social mobility.

Course Content

Unit-I

Social Stratification – Meaning, Features and Functions; Inequalities – Social and Natural.

Elements : Differentiation, Hierarchy, Ranking, Reward, Evaluation.

Unit-II

Theories of Social Stratification :

Functional – Davis and Moore.

Conflict – Karl Marx.

Multi-dimensional – Max Weber.

Unit-III

Forms : Caste, Class and Gender.

Features and Interface.

Unit-IV

Social Mobility – Meaning, Features, Types, Factors.

Indicators – Education, Occupation, Income.

Essential Readings :

1. Bendix, R. & Lipset, S.M. (1974) : *Class, Status & Power : Social Stratification in Comparative Perspective*, London : Routledge & Kegan Paul.
2. Ghurye, G.S. (1983) : *Caste, Class and Occupation*, Bombay : Popular Prakashan.
3. Giddens, Anthony (2001) : *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. Sharma, K.L. (1980) : *Essays in Social Stratification*, Jaipur : Rawat.
8. Tumin, M. (1987) : *Social Stratification*, New Delhi : Prentice Hall.

Further Readings :

1. Beteille, Andre (ed.) (1978) : *Social Inequality*, Auckland : Penguin Books.
2. Beteille, Andre (1996) : "Varna & Jati", *Sociological Bulletin*, Vol. 45, No. 1 (March) Pages 15-27.
3. Culvert (1982) : *The Concept of Class*, London : Hutchinson.
4. Gupta, Dipankar (1991) : *Social Stratification*, New Delhi : Oxford University Press.
5. Hughes, John *et al* (1995) : *Understanding Classical Sociology*, Marx, Weber & Durkheim, London : Sage.
6. Richardson, C.J. (1977) : *Contemporary Social Mobility*, N.Y., Nicholas Pub. Co.
7. Inglis, David & John Bone (ed.) (2006) : *Dimensions of Social Stratification*, London : Routledge & Kegan Paul
8. Levine, Rhonda (ed.) (2006) : *Social Class & Stratification*, U.K. Rowman & Littlefield Publishers.
9. Saunders Peter (1990) : *Social Class & Stratification*, London, Routledge and Kegan Paul.
10. Giddens, Anthony & Sutton W. Philip (2010) : *Sociology : Introductory Readings*, U.K., Polity Press.
11. Schacfer, Richard, T. (2010) : *Sociology : A Brief Introductions*, N.Y., Tata McGraw Hill.

PUBLIC ADMINISTRATION

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Outlines of tests, syllabi and courses of reading

Paper-A : 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, 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 :

- (i) 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 (i) in question paper in this regard.
- (ii) 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.

Civil Service : Meaning, Features and Functions.

Bureaucracy : Meaning, Characteristics, Demerits and Remedies.

Classification : Meaning, types, advantages and disadvantages. Classification of Civil Services in India.

Unit-II

Recruitment : Meaning, Methods, Problems. Recruitment to 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.

Joint Consultative Machinery, Staff Associations.

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.

Central Vigilance Commission : Structure, functions and role.

Administrative Tribunals : Meaning, Significance, Types, Advantages and Disadvantages.

Essential Readings :

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

Further Readings :

1. Paul Pigors and C.A. Myers : *Personnel Administration : A Point of View and Method*, (New York, McGraw Hill, 1973).
2. Government of India, Administrative Reforms Commission : *Report on Personnel Administration*, (New Delhi : Manager of Publication, 1967).
3. Indian Institute of Public Administration : *Personnel Administration*, (New Delhi : IIPA, 1970).
4. V.M. Sinha : *Personnel Administration*, (Jaipur : RBSA, 1986).

Paper-B : FINANCIAL 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 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 :

- (i) 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 (i) in question paper in this regard.

- (ii) 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.

Budget : Meaning, Types and Principles.

Budgetary Process : 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

Legislative Control over Finance.

Public Accounts Committee.

Estimates Committee.

Committee on Public Undertakings.

Unit-IV

Audit : Concept, Objectives and Types.

CAGI : Appointment, Functions and Role.

Concepts : Direct Taxes, Indirect Taxes including Value Added Tax (VAT); Deficit Financing, Fiscal Deficit, Public Debt and Public Expenditure.

Essential Readings :

1. S.L. Goel : *Financial Management and Administration* (New Delhi : Sterling Publication, 1993).
2. Sahib Singh and Swinder Singh : *Public Personnel and Financial Administration* (Jalandhar : New Academic Publishers, 2007).
3. M.J.K.Thavaraj : *Financial Administration of India* (New Delhi : Sultan Chand Publications, 1978).
4. G. S. Lall : *Financial Administration in India* (Delhi : H.P.J. Kapoor, 4th ed.).
5. S.S. Mookerjee : *Indian Public Finance and Financial Administration* (New Delhi).

Further Readings :

1. Government of India, Administrative Reforms Commission : *Report on Financial Administration* (New Delhi : Manager of Publications, 1967).
2. Government of India, Administrative Reforms Commission : *Report on Financial Accounts and Audit* (New Delhi : Manager of Publications, 1967).
3. Government of India, Administrative Reforms Commission : *Report on Centre-State Relations* (New Delhi : Manager of Publications, 1967).
4. R.K. Sinha : *Centre-State Financial Relations in India : Various Aspects, Irritants, Framework for Action* (New Delhi : Deep & Deep Publications, 1986).

PHILOSOPHY

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Outlines of tests, syllabi and courses of reading

Paper-I : INDIAN ETHICS (Theory)

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

Aims and Objectives :

This paper highlights the ethical philosophies propounded in the different Indian Philosophical Systems. It exposes the students to the main tenets of Buddhism, Sikhism, Gandhism, Gita and Vedic Culture.

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

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

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

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

Unit-I

1. *Salient Features of Indian Ethics with reference to Purusartha* : Yoga Dharma and Sanatan Dharma.
2. *Varna Vyastha and Ashrama Dharma* : A Contemporary Analysis.

Unit-II

3. *Buddhist Ethics* : Four Noble Truths, Eight Noble Paths, Ahimsa and Karma Bhava Chakra.
4. *Jain Ethics* : Triratnas.
5. *Sikh Ethics* : Hukum, Nirbhau, Nirvair, Parupkar, Sewa and Sahaj.

Unit-III

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

Unit-IV

8. *Yoga and Stress Management* : Definition of Yoga, Ashtanga Yoga.
9. *Yoga* : Yama, Niyama, Asana, Pranayama, Pratyahara, Dharna, Dhyana, Samadhi.

Essential Readings :

1. I. C. Sharma : *Ethical Philosophies of India*, George Allen and Unwin, London, 1965.
2. Avtar Singh : *Ethics of the Sikhs*, Punjabi University, Patiala, 1970.
3. S. K. Maitra : *The Ethics of the Hindus*, Asian Publication Services, New Delhi, 1956.
4. B.N.S. Iyengar : *Light on Yoga* (English).
Yog Dipika (Hindi).
5. Vivekananda : *Raj Yoga*, Advait Ashram.

Further Readings :

1. Surama Dasgupta : *Development of Moral Philosophy in India*, Munshi Ram Manoharlal Pub., New Delhi, 1994.
2. Four chapters on Freedom, Commentary on the Yoga Sutras of Patanjali, Swami Satyananda Saraswati Yoga Publications Trust, Munger, Bihar-Chapter II Section 29 onwards, Chapter III—Sections 1 to 6.

Paper-II : 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

1. *The Nature of Ethics* : Virtues and Goodness, its concerns, Relation of Ethics with Aesthetics, Psychology and Religion.
2. The notion of good and beauty, right, duty and obligation, development of morality.
3. *Object of Moral Judgement* : Actions, Intentions, Situations and Character.

Unit-II

4. Concept of Mitzwah in Judaism.
5. Concept of Love in Christianity.
6. Concepts of sin and freedom in Christian Tradition.
7. *Categorical Ethics* : Kant.
8. *Virtue Ethics* : Aristotle.

Unit-III

9. Teleological Ethics : (i) Hedonism; (ii) Utilitarianism : (a) Mill, (b) Bentham.

Unit-IV

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

Essential Readings :

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

Further Readings :

1. W. Frankena : *Ethics*, Englewood Cliffs, Prentice Hall, New Delhi, India, 1994.
 2. J.D. Mcbbott : *An Introduction to Ethics*, London : Hutchinson, 1966.
 3. John Hospers : *Human Conduct : An Introduction to the Problems of Ethics*, N.Y., Harcourt, 1961.
 4. Rosaline Hursthome : *Virtue Ethics*, New York, Harcourt, 1961.
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PSYCHOLOGY

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Objectives :

- (i) Experimental Psychology course will emphasize on helping the students to gain knowledge about nervous system, sensation and perception. 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.

Paper–A : EXPERIMENTAL PSYCHOLOGY

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

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

- (i) *The syllabus has been divided into four units.*
There shall be **9** questions in all. The first question shall be short answer type containing 12 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 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.
- (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 Nervous System* : Structure and Functioning of the Neuron; Divisions of Nervous System—Central Nervous System and Peripheral Nervous System; Structure and Functioning of the Brain.

UNIT-II : *Sensations* : 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 Stimulus and Average Error; Psychophysical Relationships.

UNIT-IV : *Perception* : Attention as Selective Perception; Perception of Form, Space and Movement.

Paper-B : EXPERIMENTAL PSYCHOLOGY

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

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

- (i) *The syllabus has been divided into four units.*
There shall be **9** questions in all. The first question shall be short answer type containing 12 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 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.
- (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 : *Learning* : Concept, Classical Conditioning, Operant Conditioning, and Observational Learning.

UNIT-II : *Memory* : Sensory, Short Term and Long Term Memory. Levels of Processing; Measures of Memory; Forgetting due to Decay and Interference.

UNIT-III : *Thinking* : Concept Attainment Reasoning; Problem Solving; Language in Thinking.

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 is allowed in the examination.

PSYCHOLOGY PRACTICALS

Max. Marks : 40
Time : 3 Hours

Eight practicals have to be performed :

1. Division of Attention.
2. Span of Attention.

3. Two Point Threshold.
4. Muller Lyer Illusion.
5. Differential Limen.
6. Effect of Mental Set on Perception.
7. Maze Learning.
8. Paired Associate Learning.
9. Comparing Recall and Recognition as Measures of Memory.
10. Retroactive Interference.
11. Bilateral Transfer of Training.
12. Problem Solving.

Books Recommended :

Essential Books :

1. D'Amato, M.R. (1970) : *Experimental Psychology*, New Delhi : Tata McGraw Hill.
2. Feldman, R.S. (1996) : *Understanding Psychology*, New Delhi : Tata McGraw Hill.
3. Garrett, H. E. (1966) : *Statistics in Psychology and Education*, New Delhi : Vakils, Feffer, and Simons.
4. Morgan, C.T., King, R.A., Weisz, J.R. and Schopler, J. (1987) : *Introduction to Psychology*, Singapore : McGraw Hill.
5. Woodworth, R.S. and Schlosberg, H. (1954) : *Experimental Psychology*, New Delhi : Oxford and IBH.

Reference Books :

1. Guilford, J.P., and Fruchter, B. (1981) : *Fundamental Statistics in Psychology and Education*, Singapore : McGraw Hill.
2. Kling, J.W. and Riggs, L.A. (1971) : *Experimental Psychology*, New York : Holt, Rinehart and Winston.

GEOGRAPHY

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A : WORLD RESOURCES AND ENVIRONMENT

Max. Marks	:	75
Theory	:	65 marks
Internal Assessment	:	10 marks
Time	:	3 Hours

Objectives :

- To understand concepts of resources and their interface with environment;
- To examine use and misuse of various resources and to analyse future prospects;
- To study various methods and approaches of conservation and management of natural resources;
- To understand the quantitative and qualitative aspects of human resources in spatial perspectives and the associated environmental problems.

Course Content :

UNIT-I

Meaning, nature and components of environment. Nature and definition of resources. (6 lectures)
Resource—environment interface.

Classification of Resources : Renewable and nonrenewable : Biotic (forests, wild-life, live-stock, fisheries, agricultural crops) and abiotic (land, water, minerals). (6 lectures)

UNIT-II

Distribution, availability, utilization and conservation of water; minerals and energy resources, their economic and environmental significance and sustainability. (15 lectures)

Types and distribution of Forests, Fisheries and major Soils : Their economic and environmental significance and conservation; problems of soil erosion and soil conservation. (15 lectures)

UNIT-III

Human Resources : Quantitative and qualitative aspects of population; numbers, distribution, density, growth, literacy and urbanization. (10 lectures)

Population-Resource Relationship, Population – resource regions of the world. (4 lectures)

UNIT-IV

Environment : Natural and Human. Man-environment relationships—determinism, possibilism, ecology. (10 lectures)

Biodiversity : Meaning and importance. (4 lectures)

Environmental Issues : Pollution; population explosion; food security; deforestation; conservation of wild life. (5 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 not exceed 25 words. Each part will carry 1.5 marks (Total 15 marks.)
 2. The whole syllabus will be divided into 4 units. Eight questions will be set out of the whole syllabus, 2 from each unit. The students will be required to attempt one question from each unit. Each question will carry 12.5 marks. These will be in addition to the compulsory question at serial number 1.
 3. Special credit will be given to suitable use of maps and diagrams. Use of unmarked stencils and colours are allowed.
 4. Internal assessment will include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.
 5. 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 (5) in the question paper.

Books Recommended :**Essential Readings :**

1. Chandna, R.C. : *A Geography of Population*, Kalyani Publishers, Ludhiana, 2009.
2. Chandna, R.C. : *Environmental Awareness*, Kalyani Publishers, New Delhi, 1998.
3. Hartshorne, Truman A. and John W. Alexander : *Economic Geography*, Prentice Hall of India, New Delhi, 1994, 3rd Edition.
4. Singh, Jagdish : *Geography of Resources*, Gyanodaya Prakashan, Gorakhpur, 2001.

Further Readings :

1. Agarwal, A. et. al : *The Citizen's Fifth Report*, Centre for Science and Environment, New Delhi, 1999.
2. Kates, R.W. & Burton, I. : *Geography, Resources and Environment*, Vols. I & II, (Eds.) University of Chicago Press, Chicago, 1986.
3. Zelinsky, Wilbur : *A Prologue to Population Geography*, Prentice Hall, New Jersey, 1966.
4. Zimmerman, E.W. : *World Resources and Industries*, Harper, New York.

Pedagogy :

- Maps can be shown related to distribution of various resources in the World and India
- Diagrams and flow charts related to institutional setup and policy models may be prepared and shown to students.
- Impact of problems associated to environment may be comprehended through field visits.

Paper-B : GEOGRAPHY OF INDIA – With special reference to Punjab

Max. Marks	:	75
Theory	:	65 marks
Internal Assessment	:	10 marks
Time	:	3 Hours

Objectives :

To foster comprehensive understanding of physical, human and economic resource base of India as well as Punjab.

Course Content :**UNIT-I**

India in the context of Asia and the World	(5 lectures)
Land : Relief, drainage, climate, natural vegetation, soils, minerals (Iron ore, manganese, mica, copper, gold) and power resources.	(5 lectures)
People : Numbers, distribution and density, growth, urbanization and religious composition.	(5 lectures)

UNIT-II

- Economy (I) : (i) Agriculture - Characteristics and Problems of Indian (15 lectures)
 Agriculture : Land use pattern, irrigation, major crops (rice, wheat, maize, cotton, jute, tea and groundnut)
- (ii) Transport - Rail, road, airways and waterways.

UNIT-III

- Economy (II) : (i) Distribution and localization factors of major industries (iron and steel, cotton textiles, sugar, fertilizers, automobile). (15 lectures)
- (ii) International trade.

UNIT-IV

Location, evolution and administrative divisions of Punjab (15 lectures)

Land : Physiography and drainage, climate, vegetation and soils.

People : Number, distribution, density, growth, religious composition and urbanization.

Economy : Agriculture, Industry and Transport.

- 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 not exceed 25 words. Each part will carry 1.5 marks (Total 15 marks.)
 2. The whole syllabus will be divided into 4 units. Eight questions will be set out of the whole syllabus, 2 from each unit. The students will be required to attempt one question from each unit. Each question will carry 12.5 marks. These will be in addition to the compulsory question at serial number 1.
 3. Special credit will be given to suitable use of maps and diagrams. Use of unmarked stencils and colours are allowed.
 4. Internal assessment will include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.
 5. 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 (5) in the question paper.

Books Recommended :**Essential Readings :**

1. Deshpande, C.D. : *India : A Regional Interpretation*, Northern Book Centre, 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. Spate, O.H.K. and ATA : *India & Pakistan : Land, People and Economy*, Methuen, London, Learmonth 1967.
5. Mankoo, Darshan Singh : *Geography of Punjab*, Kalyani Publications, Ludhiana, 2009.
6. Mavi, H.S. and DS : *Geography of Punjab*, National Book Trust, Delhi, 1993.
Tiwana

Further Readings :

1. Khullar, D.R. : *India : A Comprehensive Geography*, 2007, Kalyani Publishers, New Delhi.
2. Singh, R.L. (Ed.) : *India : A Regional Geography*, National Geographical Society of India, Varanasi, 1971.
3. Singh, Jagdish : *India : A Comprehensive Systematic Geography*, Gyanodaya Prakashan, Gorakhpur, 2nd Edition, 2003.
4. Singh, Gopal : *A Geography of India*, Atma Ram & Sons, New Delhi.
5. Sharma, T.C. and O. : *Economic and Commercial Geography of India*, Vikas, New Delhi Coutinho 2005.
6. Tirtha, Ranjit & Gopal : *Emerging India*, Conpub Ann Arbour Publishers, Michigan, 2006.
Krishan

Pedagogy :

Teaching should involve usage of visual aids especially maps. Students should be encouraged to use an atlas in the classrooms. Audio-video shows on different parts of India and Punjab should be arranged if possible.

Paper-C : CARTOGRAPHY

Max. Marks : 50

Time : 3 Hours

Distribution of Marks :

Written paper of 3 hours duration	:	30 marks
Viva and Practical record (10 + 10)	:	20 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***Symbolization of Geographical Data :*

- Point Symbols* : Dot, circle, sphere.
- Line Symbols* : Isopleths and flow lines.
- Areas Symbols* : Choropleth.

(5 lectures, 10 lab. sessions)

UNIT-II*Construction and Significance of the following :*

- Columnar Diagrams* : Simple, percentage, superimposed, composite.
- Graphs* : Line graphs, climograph, hythergraph, ergograph, wind rose.

(6 lectures, 12 lab. sessions)

UNIT-III*Cartographic Representation of :*

- Population data (distribution, density, growth, migration and literacy).
- Agricultural data (land utilization, distribution of crops, percentage of cropped area and irrigated area).
- Industrial data (distribution, employment and production).

(9 lectures, 30 lab. sessions)

UNIT-IV

Topographical Maps : Significance of topographical maps in geographical studies.

Study and Interpretation of Topographical Maps of India including OSM and DSM (two sheets : one representing a hilly/mountainous tract and the other a plain tract).

Profiles : Longitudinal and Transverse, profiles of rivers.

Introduction to Elementary concepts of GIS.

(6 lectures, 12 lab. sessions)

Note :

1. The written and practical examination including viva-voce shall be conducted at the respective college itself except for USOL students. However, the format of the questions paper shall be uniform. A separate paper for 30 marks shall be prepared for colleges by the University from the prescribed syllabus.
2. Practical exam. 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 teacher of geography in the college.
3. For students of USOL, a written theory paper for 30 marks shall be conducted by the University alongwith the University examination.
4. A compulsory question containing 10 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 6 parts. The answer of each part should not exceed 25 words. Each part will carry 1 mark (Total 6 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. The students will be required to attempt one question from each unit. These will be in addition to the compulsory question at serial number 1.
6. Evaluation of Practical Record will be done at the time of viva-voce examination. A minimum of 20 sheets are to be prepared by the students. There will be no laboratory exercise at that time.
7. 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).
8. For the students of USOL there will be an internal assessment of 10 marks in lieu of the viva-voce examination in practical record and field report. The marks obtained by the candidate will be added to the marks awarded by the internal and external examiners evaluating the Practical Record and Field Report.

9. A fresh practical note book/field report shall be prepared by failed/improvement candidates.
10. For Practical classes, the number of students in one group shall not exceed fifteen.
11. There will be 3 hours of teaching per week for this paper.
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.

Books Recommended :

Essential Readings :

1. Robinson, A.H. : *Elements of Cartography*, John Wiley, New York, 1995.
2. Singh, Gopal : *Mapwork & Practical Geography*, Vikas Publishing House Pvt. Ltd., New Delhi, 1995.
3. Singh, L.R. : *Practical Geography*, Prayag Pustak Bhavan, Allahabad, 2006.

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. Khullar, D.R. : *Essentials of Practical Geography*, New Academic Publishing Co., Jalandhar, 2009.
4. Monkhouse, F.J. : *Maps and Diagrams*, Methuen & Co., London, 1994 reprint.

Pedagogy :

The students need to be trained in the use of symbols to depict various geographic data.

They should learn to comprehend the topographical maps by deriving slopes and drawing profiles and are able to interpret the maps.

GANDHIAN STUDIES**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****Paper-A : SOCIAL THOUGHT OF MAHATMA GANDHI**

Max. Marks	:	100
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 will be 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 25-30 words. The candidate is required to attempt any **9** short answer type questions carrying 18 marks i.e. 2 marks of each.
 4. Rest of the paper shall contain four (4) units and 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.

Unit-I

1. Foundations and Characteristics of Gandhi's Social Thought
2. Truth
3. Non-violence

Unit-II

4. Human Rights
5. Ideal Society, State and Rama Rajya

Unit-III

6. Education
7. Theory of Civilization
8. Morality and Religion

Unit-IV

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. Varma, V.P. : *Political Philosophy of Mahatma Gandhi & Sarvodaya*, Agra : Laxmi Narain Aggarwal, 1998.

Further Readings :

1. Suda, J.P. : *Main Currents of Social and Political Thought of Modern India*, Vol. II, Meerut : K. Nath & Co., 1973.
2. Unnithan, T.K.N. : *Gandhi and Social Change*, New Delhi : Arnold Heinemann India, 1973.

Paper-B : POLITICAL THOUGHT OF MAHATMA GANDHI

Max. Marks	: 100
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 25-30 words. The candidate is required to attempt any **9** short answer type questions carrying 18 marks i.e. 2 marks of each.
 4. Rest of the paper shall contain four (4) units and 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.

Unit-I

1. Influences on Gandhi's Political Thought
2. Theory of Ends & Means
3. Theory of State : Ideal and Practical

Unit-II

4. Panchayat Raj and Gram Swaraj
5. Freedom & Equality
6. Rights and Duties

Unit-III

7. Religion and Politics
8. Satyagraha :
 - (a) Meaning
 - (b) Essentials
 - (c) Forms & Significance
 - (d) Satyagraha & Passive Resistance
 - (e) Relevance of Satyagraha in the Modern State

Unit-IV

9. Power and Authority
10. Assessment and Contemporary Relevance

Essential Readings :

1. Bhattacharyya, Buddhadeva : *Evolution of Political Thought of Gandhi*, Calcutta; Calcutta Book House, 1969.
2. Dhawan, G.N. : *Political Philosophy of Mahatma Gandhi*, Ahmedabad ; Navajivan Publishing House, 1990, 4th Edition.
3. Varma, V.P. : *The Political Philosophy of Mahatma Gandhi and Sarvodaya*, Agra; Lakshmi Narain Aggarwal, 1981.

Further Readings :

1. Iyer, Raghavan N. : *The Moral & Political Thought of Mahatma Gandhi*, London; Oxford University Press, 1973.
 2. Mishra, A.D. (ed.) : *Perspectives on Human Rights*, New Delhi; Radha Publications, 2002.
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JOURNALISM & MASS COMMUNICATION**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****Objectives :**

- (i) The course will introduce students to the basic techniques of sourcing news stories and features; train them in the art and science of writing and presenting in the areas of print, radio and the television medium.
- (ii) Pedagogy of the Course Work :
80 % lectures (including expert lectures).
20 % assignments, discussion and seminars.

Paper-A : PRINT JOURNALISM

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. 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.

Paper-B : RADIO & TV JOURNALISM

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. 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

Reporting and writing for Radio and TV.

Unit-II

Basic introduction to audio/video production.

Unit-III

Pronunciation and modulation in Radio/TV reporting : Pitch, volume, tempo, vitality.

Unit-IV

Basic camera shots and language of camera movements.

PRACTICALS

	Max. Marks	:	40
1. Portfolio of all issues of a laboratory quarterly publication.		:	10 Marks
2. Compilation of 5-minute weekly TV news bulletins.		:	10 Marks
3. Compilation of 10-minute weekly radio bulletins.		:	10 Marks
4. Performance report of internship in the media of print, radio or TV.		:	10 Marks

Books Recommended :**Essential Readings :**

1. Rivers, William, L. : *Freelancer and Staff Writer : Newspaper Features and Magazine Articles*, Wadsworth Publishing Co., 1991.
2. Sharma, S.R. : *Elements of Modern Journalism*, S.S. Publishers, New Delhi, 1999.
3. Chauhan, Swati and Chandra, Navin : *Foundation of News and Journalism*, Kanishka Publishers, New Delhi, 2000.
4. Maur, Susan : *Writing Your Own Scripts and Speeches*, Mc Graw Hill, London, 1991.
5. Ahuja, B.N. and Chhabra, S.S. : *Principles and Techniques of Journalism*, Surjeet Publications, New Delhi, 1995.
6. Blundell, William : *The Art and Craft of Feature Writing*, Plume Inc., 1998.
7. Scannell, Paddy : *Broadcast Talk*, Sage Publications, London, 1991.
8. Hyde, Stuart : *Television and Radio Announcing*, Kanishka Publishers, New Delhi, 1998.
9. Jain, S.P. : *Art of Broadcasting*, Intellectual Publishing House, New Delhi, 1985.
10. Mufti Maqbool : *Basics of Teaching of Arts and Audio Visuals*, Dilpreet Publishing House, New Delhi, 1996.
11. Look, Marshall, J. : *Leads and Conclusions*, Writers' Digest Books, 1995.
12. Mencher, Melvin : *Basic News Writing*, Brown Publishers, Iowa, 1989.
13. Bhatt, S.C. : *Broadcast Journalism : Basic Principles*, Har Anand Publications, New Delhi, 1993.
14. Sudarshan, K.N. : *Electronic Media*, Indian Publishers Distributors, 1998.
15. Jacobi, Peter B. : *The Magazine Article : How to Think it, Plan it, Write it*, Indiana University Press, 1997.
16. Ravindran, R.K. : *Handbook of Reporting and Editing*, Anmol Publications, N.D., 1999.
17. Sharma, S.R. : *Information Technology, Mass Media and Management Systems*, Book Enclave, Jaipur, 1997.

18. Joseph, M.K. : *Textbook of Editing and Reporting*, Dominant Publishers, New Delhi, 2000.
19. George, T.J.S. : *News Editing*, IIMC, New Delhi, 1980.
20. Krause, Jim : *Ideas Index : Graphic Effects and Typographic Treatment*, North Light Books, N.Y., 2000.
21. Moen, Daryl R. : *Newspaper : Layout and Design*, Iowa State University Press, 1989.
22. Bringhurst, Robert : *The Elements of Typographic Style*, Hartley and Marks, 1997.
23. Wong, Wucius : *Principles of Color Design*, John Wiley and Sons, 1997.
24. Hoy, Frank : *Photojournalism : The Visual Approach*, Prentice Hall, New Jersey, 1986.
25. Hurlburt, Allen : *Publication Design*, Van Norstrand-Reinhold and Co., 1977.
26. Lewis, John : *Typography*, Barrie and Jenikins, 1978.
27. Maghdam, Dinah : *Computers in Newspaper Publishing*, Marcel-Dekker Inc., 1978.
28. Worlock, Peter : *The Desktop Publishing Book*, Heinmann, 1983.
29. Davis, Bront : *Teach Yourself Photoshop*, Hayden Books, 1998.
30. Trewin, J. : *Presenting on TV and Radio*, UniLib Book Distributors, 2004.
31. Keith, M.C. : *The Radio Station*, UniLib Book Distributors, 2004.
32. Chapman, N. : *Digital Media Tools*, UniLib Book Distributors, 2004.
33. Bruce, G. : *Practical Recording Techniques*, UniLib Book Distributors, 2004.
34. Stovall, J. : *Writing for the Mass Media*, Pearson Education, 2007.
35. Lorenz, A. and Vivian, J. : *News : Reporting and Writing*, Pearson Education, 1996.
36. Shook, F. : *Television Field Production and Reporting*, Pearson Education, 2006.

Reference Books :

1. Kennedy, A. : *Beyond the Inverted Pyramid*, Bradford Books, 1992.
2. Thomas Sunny : *Writing for the Media*, Vision Books Ltd., N.D., 1997.
3. Singh, Chandrakant : *Before the Headlines : A Handbook of Television*, MacMillan India, New Delhi, 1999.
4. Shrivastava, K.M. : *Radio and TV Journalism*, Sterling Publishers, New Delhi, 1989.
5. Parthasarthy, Rangaswami : *Here is the News : Reporting for the Media*, Sterling Publishers, 1994.
6. Shaw, Eva : *The Successful Writer's Guide to Publishing Magazine Articles*, Rodgers and Nelson Publishing Co., 1998.
7. Wells, Gorden : *The Craft of Writing Articles*, Allison and Burby Inc., 1997.
8. Yudkin, Marcia : *Writing Articles About the World Around You*, Writer's Digest Books, 1998.
9. Wray, Cheryl Sloan : *Writing for Magazines : A Beginners Guide*, NTC Publishing Group, 1996.
10. Hay, Vicky : *The Essential Feature : Writing for Newspapers and Magazines*, Columbia University Press, 1991.
11. Hennessey, Brendan : *Writing Feature Articles : A Practical Guide to Methods and Markets*, Focal Press, 1997.
12. Wilber, Rick : *Magazine Feature Writing*, Bedford Books, 1994.
13. Campbell, Lawrence : *A Guide to Radio-TV Writing*, Iowa State University Press, Iowa, 1950.
14. Cohen, Akiba : *The Television News Interview*, Sage, London, 1987.
15. Williams, Robin : *The Non Designers Design Book*, Peachpitt Press, 1994.
16. Fink, Anne : *Faces on the Edge : Type Design in the Digital Age*, Peachpitt Press, 1998.
17. Allen, John : *Newspaper Design*, Harper Bro., 1947.

18. Craig, James : *Production for the Graphic Designer*, Watson-Gutpill Publications, N.Y., 1979.
19. Arnold, Edmund C. : *Functional Newspaper Design*, Harper and Row, 1956.
20. Davis, Alec : *Graphics : Design into Production*, Faber and Faber, 1973.
21. Sutton, Albert A. : *Design and Make-up of the Newspaper*, Prentice Hall, 1970.
22. Evans, Harold : *Newspaper Design*, Holt, Rhinehart and Winston, 1974.

POLICE ADMINISTRATION

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Outline of tests, syllabi and courses of reading

Paper-A : POLICE PERSONNEL ADMINISTRATION

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

(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 two internal examinations and attendance.

(C) Instructions for Paper Setters and Candidates :

- 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 each. The candidate is required to attempt any 9 short answer type questions carrying 2 marks ($9 \times 2 = 18$ 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).

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*, 11th 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.

Paper-B : LAW AND ORDER ADMINISTRATION

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

(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 two internal examinations and attendance.

(C) Instructions for Paper Setters and Candidates :

- 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 each. The candidate is required to attempt any 9 short answer type questions carrying 2 marks ($9 \times 2 = 18$ 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)

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 and Significance of Primary Agencies of Law and Order Administration – The Police, The Magistracy, The Courts of Law, and the Prisons. Role and Significance of Auxiliary Agencies of Law and Order Administration at the District Level with special reference to Departments of Health, Transport, Excise and Taxation, and Home Guards.

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.

WOMEN'S STUDIES**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013****Paper-A : 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.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

In this paper, the candidate will be assessed for 90 marks on the basis of a written examination and 10 marks will be for 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.

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.

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.

Essential Readings :

1. Agarwal, Bina : *The Gender and Environment Debate: Lessons from India, Feminist Studies*, Vol. 18, No.1, Spring 1992, pp 119-158.
2. Anderson, Margaret : *Thinking About Women*, Macmillan, New York, 1993.
3. Beasley, Chris : *What is Feminism?* Sage, London, 1999.
4. Bell Hooks : *Ain't I a Woman: Black Women and Feminism*, Pluto Press, London, 1982.
5. Chatterjee, Mohini : *Feminism and Gender Equality*, Aavishkar, Jaipur, 2005.
6. Collins, Patricia Hill : *Black Feminist Thought: Knowledge, Consciousness and the Politics of Empowerment*, Routledge, New York, 1999.
7. Desai, Leela : *Issues in Feminism*, Pointer Pub., Jaipur, 2004.
8. Molyneux, Maxinne and Steiberg, Deborah Lynn : *Mies and Shiva's Ecofeminism: A New Testament, Feminist Review*, No. 49, Spring 1995, pp 86-107.

Further Readings :

1. Banks, Olive : *Faces of Feminism: A Study of Feminism as a Social Movement*, St. Martin's Press, New York, 1981.
2. Freeman, Jo (ed.) : *Women: A Feminist Perspective*, Palo Alto, California : Mayfield, 1975.

3. Kosambi, Meera : *Crossing Thresholds: Feminist Essays in Social History*, Permanent Black, New Delhi, 2007.
4. Mishra, Binod (ed.) : *Critical Responses to Feminism*, Sapru & Sons, New Delhi, 2006.
5. Shukla, Bhaskar A. : *Feminism : From Mary Wollstonecraft to Betty Friedan*, Sapru & Sons, New Delhi, 2007.
6. Spender, Dale : *Feminism Theorists: Three Centuries of Women's Intellectual Traditions*, The Women's Press, London, 1982.

Paper-B : 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.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

In this paper, the candidate will be assessed for 90 marks on the basis of a written examination and 10 marks will be for internal assessment.

There shall be 9 questions in all. The first question shall be **compulsory** containing 15 short questions spread over 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.

Unit-I : Women and Work :

- (a) Changing definition.
- (b) Gender differentials in Work Participation rates.
- (c) Sexual Harassment at the Workplace.
- (d) Obstacles to Women's Workforce Participation.

Unit-II : Women and Family :

- (a) Origin of the family
- (b) Types of family
- (c) Gender Division of labour in family
- (d) Female headed households
- (e) Changing role of women in the family

Unit-III : Women, Religion and Caste :

- (a) *Religion* : Women's Status in major Indian religions – Hinduism, Islam, Sikhism, Christianity.
- (b) *Caste* : Introduction to caste system in India; Issues of dalit women.

Unit-IV : Violence against Women :

- (a) Violence against Women : Definitions
- (b) Types of violence : Domestic violence
Caste and Communal violence
Cultural violence
Rape and Dowry

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*, VHA I & 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. Anand, Meena : *Dalit Women : Fear and Discrimination*, Isha Books, Delhi, 2005.
2. Bhattacharya, Rinki (ed.) : *Behind Closed Doors : Domestic Violence in India*, Sage, New Delhi, 2004.
3. Choudhary, Prem : *Contentious Marriages: Eloping Couples: Gender, Caste and Patriarchy in Northern India*, OUP, New Delhi, 2007.
4. Desai, Neera and Krishnaraj, Maithreyi (ed.) : *Women and Society in India*, Ajanta Publication, New Delhi, 1987.
5. Mohanti, Bedabati : *Violence Against Women : An Analysis of Contemporary Realities*, Kanishka Publications, New Delhi, 2005.
6. Mohini Giri, V. : *Deprived Devis : Women's Unequal Status in Society*, Gyan, New Delhi, 2006.
7. Nagar, N.S. : *Changing Status of Indian Women*, Vista International Pub., Delhi, 2008.
8. Rajawat, Mamta : *Dalit Women: Issues and Perspectives*, Anmol Pub., New Delhi, 2005.

Readings in Hindi :

1. Kumar, Raj (ed.) : *Bhartiya Mahila*, Arjun Publishing, New Delhi, 2003.
2. Saraswat, Swapnil : *Mahila Vikas Ek Paridrishya*, Nayan Pub., New Delhi, 2005.
3. Sharma, Pragya : *Mahila Vikas Aur Sashaktikaran*, Aavishkar Pub., Jaipur, 2001.
4. Sharma, Pragya : *Bharatiya Samaj Mein Nari*, Aavishkar Pub., Jaipur, 2001.
5. Vohra, Asha Rani : *Adhunik Samaj Mai Istri*, Ji Navraj Prakashan, Delhi, 2005.

HUMAN RIGHTS & DUTIES

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A : HUMAN RIGHTS & DUTIES IN INDIA

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

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

1. For written paper, the students will be required to attempt five questions in all. Question No.1 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, Question Nos. II to IX will consist of long answer (essay type) questions, two questions from each unit with internal choice carrying 18 marks of each i.e. $4 \times 18 = 72$ marks.

2. On an average, 15 hours are to be devoted to each unit.
3. 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 (3) in the question paper.

Objective :

This paper deals with the growth of human rights phenomenon in India focusing on its history, normative agenda and implementation mechanisms.

- Unit-I :** Evolutionary Phase: Evolution of the concept of Human Rights & Duties in India; Values of composite culture of India.
- Unit-II :** Contemporary Phase: Human Rights & Duties in Contemporary India.
- Unit-III :** Normative framework: Constitutional Values such as The Preamble, Fundamental Rights, Directive Principles, Fundamental Duties.
- Unit-IV :** Implementation of Human Rights: Constitutional Machinery; Statutory Machinery: National Human Rights/State Human Rights Commissions.

Suggested Readings :

1. Alston, Philip (ed.), 2004, *The Dictionary of Human Rights*, London: Europa Publications.
2. Basu, D.D., 2009, *Introduction to the Constitution of India*, Nagpur, New Delhi, NexisLexis Butterworths.
3. Brownlie, Ian and Guy S. Goodwin-Gill (eds.), 2006, *Basic Documents on Human Rights*, Oxford: Oxford University Press.
4. Brundland Commission, 1986 (Brundland Report), *Our Common Future*, Oxford : Oxford University Press.
5. Das, A.K., 2007, *Human Rights in India*, New Delhi : Sarup Book Publishers.
6. Das, A.K., Mohanty, P.K., 2007, *Human Rights in India*, New Delhi : Sarup and Sons.
7. Gandhi, P.R. (ed.), 2001, *Blackstone International Human Rights Documents*, New Delhi: Universal Law Publishing Co.
8. Kapoor, S.K., 2005, *Human Rights under International Law and Indian Law*, Allahabad : Central Law Agency.
9. Nirmal, C.J., 2009, *Human Rights in India*, New Delhi : Oxford University Press.
10. Robertson, David, 2004, *A Dictionary of Human Rights*, London: Europa Publications.
11. Rao, Ashwini, 2010, *Status of Human Rights in India*, New Delhi : Pacific Publications.
12. Steiner, Henry J. et al (eds.), 1996, *International Human Rights in Context*, Chapter 10, Oxford: Clarendon Press.
13. Sehgal, B.P.S., 2008, *Human Rights in India : Problems and Perspectives*, Delhi: Deep & Deep.

Paper B : EMERGING ISSUES OF HUMAN RIGHTS IN INDIA

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

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

1. For written paper, the students will be required to attempt five questions in all. Question No.1 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, Question Nos. II to IX will consist of long answer (essay type) questions, two questions from each unit with internal choice carrying 18 marks of each i.e. $4 \times 18 = 72$ marks.

2. On an average, 15 hours are to be devoted for each unit.
3. 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 (3) in the question paper.

Objective :

This paper focuses on some selected aspects of society where human rights tend to play a crucial role.

Unit-I : Human Rights & Working Class : Bonded labour, Unorganized labour, Problems of working women.

Unit-II : Human Rights & Criminal Justice : Rights of the accused, Rights of the victim.

Unit-III : Social Problems : Poverty, Illiteracy, Unemployment.

Unit-IV : Social Auditing : Media and Civil Society.

Suggested Readings :

1. Agarwal, Amita, 2004, *Human Rights for Survival of Civilization*, New Delhi: Kalinga Publications.
2. Baxi, Upendra (ed.), 1987, *The Right to be Human*, New Delhi: Lancer International.
3. Baxi, Upendra, 2002, *The Future of Human Rights*, New Delhi : Oxford University Press.
4. Lyer, V.R. Krishna, *Human Rights – A Judge's Miscellany*, New Delhi: B.R. Publishing Corporation.
5. Kannabiran, Kalpana, 2006, *Crafting Human Rights Cultures*, NALSAR, University of Law.
6. Kaushal Rachna, 2000, *Women and Human Rights in India*, New Delhi : Daya.
7. Mishra, R.C., 2005, *Human Rights and Policing*, New Delhi: Authors Press.
8. Papolam, T.S., A.N. Sharma, 1999, *Gender and Employment in India*, New Delhi : Vikas.

9. Sanajaoba, N., 2000, *Human Rights in the New Millennium*, New Delhi : Manas Publications.
10. Sen Shankar, 1998, *Human Rights in a Developing Society*, New Delhi : A.P.H. Publishing.
11. Shastri, Satish C. (ed.), 2006, *Human Rights, Development and Environmental Law: An Anthology*, New Delhi: Bharat Law House.
12. Vibhute, K.I., 2004, *Criminal Justice : A Human Rights Perspective of the Criminal Justice Process in India*, Lucknow: Eastern Book Company.

ENVIRONMENT CONSERVATION
B.A. /B.Sc.(GENERAL) SECOND YEAR EXAMINATION, 2013

<i>Paper</i>	<i>Name</i>	<i>Time in Hrs</i>	<i>Theory Marks</i>	<i>Internal Assessment Marks</i>	<i>Total Marks</i>
A	Air Pollution and Climate change	3	65	10	75
B	Soil waste and Disaster Management	3	65	10	75
<i>Practical</i>					
A	Air Pollution and Climate change	3	50		50
B	Soil waste and Disaster Management				
Total Marks					200

Note: The practical will include survey and its project reports carrying 15 marks, 35 marks will be allotted to laboratory practicals. The number of hours for theory and practical per week shall be 5 hours and 4 hours respectively.

There will be 9 questions in all, two each from section I to IV. Question No. I (17 marks) will be short answer type & will cover the whole syllabus. Candidates will attempt five questions in all, selecting one each (12 marks) from section I to IV and the first compulsory question.

Paper-A**AIR POLLUTION AND CLIMATE CHANGE****Section-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.

Section-II

Green House Effect: Definition, Green house gases, Sources of GHE, Global Warming.

Stratospheric ozone layer depletion. Role of agriculture to green house effect (paddy and livestock, biomass burning) in GHE.

Section-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).

Section-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

PAPER-A

To monitor the level of Dust fall, SPM in surrounding atmosphere.

To monitor the level of NO_x and SO₂ 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.

Paper-B

SOLID WASTE AND DISASTER MANAGEMENT

Section-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.

Section-II

Disaster management: Natural disasters: floods, earthquakes, Tsunami, land slides, drought, forest fire, and Tropical cyclones.

Disaster management: pre-disaster phase, actual disaster phase, post- disaster phase.

Section-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.

Section-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**Paper-B**

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 land fill 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, 3rd Edition, Cambridge Univ. Press, 2006.
3. Hill, M. K. Understanding Environmental Pollution, Cambridge Uni 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.

American Public Health Association (2003) Standard Methods for Examination of Water and Wastewater, APHA, New York.

10. 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.
11. Aggarwal, A. K. Noise Pollution. APH Publications, New Delhi, 2008.
12. Veeresh, G. K. Organic Farming. Foundation Books, Delhi, 2006.
13. Gehlot, D. Organic Farming: Components and Management, Agrobios, Jodhpur, 2010.
14. Singh, K. K. & Aleyer, L. Disaster management: Manmade Disasters. APH Publications. 2010.
15. 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. 2nd Edition. S. Chand & Company Ltd., Ram Nagar, New Delhi, 2010.

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HOME SCIENCE**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2013**

<i>Paper</i>	Theory	Practical
	<i>Period/Week</i>	
Clothing	3/Week	4/Week
Textiles	4/Week	3/Week

SCHEME OF EXAMINATION

<i>Name of Paper</i>	<i>No. of Papers</i>	<i>Time in hours</i>	<i>Marks</i>	<i>Internal Assessment</i>	<i>Total</i>
Clothing	1	3 hrs.	40	10	100
Textiles	1	3 hrs.	50		
Clothing Practical		3 hrs.	45	15	60
Laundry Practical		2 hrs.	30	10	40
Total of Theory & Practical :					200

- Note :*
1. Internal assessment should be based on : Assignments/test/seminars and attendance for Theory & Practical.
 2. Practical examinations will be held before the Final Theory Exams.

Paper A : CLOTHING (THEORY)

Maximum Marks : 40
Time : 3 Hours/Week

INSTRUCTIONS FOR THE PAPER SETTER :

The question paper will consist of five sections : A, B, C, D & E. Sections A, B, C & D will have two questions from the respective sections of the syllabus & will carry 8 marks each. Section E will consist of 8 short answer type questions covering the entire syllabus uniformly carrying one mark each.

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. Equipments & supplies used for Clothing-Construction—their use & care
2. Sewing Machine :
 - (a) Parts of Sewing Machine & its accessories.
 - (b) Common defects in sewing machine & their remedies.
 - (c) Care of Sewing Machines.

SECTION-B

1. Recording of body measurements. Care to be taken while taking body measurements.
2. Different methods of developing a design—Drafting, Pattern making, Draping (in brief)—their advantages and disadvantages.

SECTION-C

1. Principles of design such as Harmony, Balance, Rhythm, Emphasis & Proportion.
2. Elements of design such as colour, form, texture, shape and line.

SECTION-D

1. Selection of suitable clothes for the following age groups :
 - (a) Infants
 - (b) Toddlers
 - (c) School going children
 - (d) Adolescents
 - (e) Adults
 - (f) Elderly
2. Care & storage of garments of cotton, wool, silk.

Paper-B : TEXTILES (THEORY)

Max. Marks : 50

Time : 3 Hours/Week

INSTRUCTIONS FOR THE PAPER SETTER :

The question paper will consist of five sections A, B, C, D & E. Sections A, B, C & D will have two questions from the respective sections of the syllabus & will carry 10 marks each. Section E will consist of 10 short type/objective type questions covering the entire syllabus uniformly carrying one mark each.

INSTRUCTIONS FOR THE CANDIDATES :

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

SECTION-A

1. Classification of textile fibres.
2. Manufacture (in Brief) and properties of different fibres :
 - (a) Cotton
 - (b) Linen
 - (c) Silk
 - (d) Wool
 - (e) Nylon
 - (f) Polyester
 - (g) Rayon—Viscose & Acetate.

SECTION-B

1. Different types of yarns—Simple, Novelty & Bulk yarn in brief.
2. Fabric Construction—A brief study of basic weaves
 - (a) (i) Simple weaves—basket, rib.
(ii) Twill—Broken twill, Satin, Sateen.
 - (b) Knitting, knotting, felting, bonding.

SECTION-C

1. Bleaching—Oxidising, reducing bleaches & their suitability to different fabrics.
2. Finishing—Sizing, desizing, calendaring, sanforising, mercerization, crease resistant, water proof & water repellent, flame resistant & flame proof.

SECTION-D

1. Application of colour on fabrics.
Dyeing—Simple dyeing of cotton.
Resist—Tie, Dye and Batik
2. Printing :
 - (a) Block Printing
 - (b) Screen Printing
 - (c) Roller Printing
3. Methods of Laundry/Washing.
4. Types and uses of starches and blues.

Practical

Max. Marks	: 75
Clothing	: 45
Laundry	: 30
Time	: 3 Hours/week

A. CLOTHING

1. *Make samples of the following :*
 - (a) Tacking, running stitch, hemming, Back Stitch, Button hole stitch, Fastners.
 - (b) Seams—Flat seam, Counter hem, Mantua maker, Run & Fell seam, French seam.
 - (c)
 - (i) Processes—Continuous wrap, two piece placket opening, pleats, gathers into a band, tucks.
 - (ii) Embroidery—10 fancy embroidery stitches.

2. *Drafting of the following:*

- (i) Child's bodice block
- (ii) Sleeve (a) Plain sleeve
(b) Puff sleeve
- (iii) Collars—Flat and raised peterpan, cape collar, baby collar.
- (iv) Jangia, Bloomer.
- (v) Drafting of (a) Adults bodice block
(b) Plain sleeve
- (vi) Petticoat
- (vii) Salwar
- (viii) Kameez

Construction of following garments :

- Children : Bloomer, Jangia, Child's gathered frock with any sleeve and collar.
- Ladies : Saree, Petticoat
Blouse
Salwar Kameez

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. *Singer Sewing Book*, Gladys Cunningham, Pub. Golden Press, New York.

8. *The Basic Book of Sewing*, Eve Harlow Pub. Octopids Books Ltd., London.
9. *Simple Dress Making 2*, Maureen Goldsworthy Pub. Mills & Boon Ltd., London.
10. *Encyclopaedia of Dress Making*, Pub. Marshall Caven Dish Books Ltd., London.

B. LAUNDRY

Time : 2 hours/week

1. Testing of cotton, wool & silk, nylon by microscope & by burning test.
2. Stain Removal : Rust, Coffee, Tea, Paint, Nail Polish, Lipstick, Perfume, Blood, Boot Polish, Ink (Ball Pen), Curry and Juice.
3. Spot cleaning of woollen garment.
4. Simple house hold dyeing of cotton fabric 12'' × 12''.
5. Preparation of an article of Tie and Dye.
6. Laundry & finishing of following garments (stiffening, blueing & iroving)
 - (a) Cotton : Salwar, Kameez, Saree.
 - (b) Synthetic : Gathered Frock/Pleated Skirt.
 - (c) Silk : Blouse
 - (d) Woollen : Cardigan/Pullovers.

- Note :*
1. University should appoint one internal examiner alongwith the external.
 2. Practical group should not exceed 15 students.

Reference Books :

1. *Textile Fabrics and their Selection*, Isable B. Wingate Prentice Hall, Inc., Englewood Cliffs, N.J., 1970.
2. *Fundamentals of Textiles and their Care*, Susheela Dantyagi, Orient Longmans, Bombay, Calcutta, Madras, New Delhi, Reprinted, 1968.
3. *Household Textiles and Laundry Work*, Durga Deulkar, Atma Ram & Sons, New Delhi, 1973.
4. *Indonesian Batik & Ikat*, Former Bedrich, Butterworth, London, 1982.
5. *Ideas for Fabric Printing and Dyeing* Gooch, Peter H. Charles Cribner's, New York, 1974.

6. *Encyclopaedia of Textiles, Fibres and Nonwoollen Fabrics*, Grayson Martin, John Wiley, New York, 1984.
 7. *Household Textiles & Laundry Work*, Durga Deulkar, Pub. Atma Ram & Sons.
 8. *Batik Kala*, Sarla Sudershan, Pub. Pustak Mahal Khari Baoli, Delhi.
 9. *Tie-Dyed Textiles of India—Veronica Murphy & Rosemary Crill*, Pub. Mapiu Publishing Pvt. Ltd. Ahmedabad.
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AGRICULTURE (ELECTIVE)**B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATIONS, 2013****Paper - A**

Max. Marks	: 75 Marks
Theory	: 70 Marks
Internal Assessment	: 5 Marks
Time	: 3 Hours

Period per week :
1. THEORY – Three of 45 minutes duration.
2. PRACTICAL – One of three hours duration.

Instructions for the paper setter:

1. Question paper shall have five sections.
2. Section A shall comprise 10 short answer type questions covering whole syllabus and will be compulsory. Each question will carry 1 (one) mark.
3. Section B, C, D and E shall have two questions each from respective sections, out of which one from each Unit is to be permitted. Each question will be of 15 (fifteen) marks.
4. Total five questions are to be attempted.

Unit-I

Important parts of the tractor, combine, thresher and their maintenance.
Study of various agricultural tools and implements.

Unit-II

Maintenance of grassy lawns and flower beds
Raising of winter and summer ornamental flowers (rose, gladioli, dahlias, dianthus, foliage plants).
Fundamentals of land scape 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 G. M. crops
Fundamentals of land measurements and land revenue

Unit-IV

Agricultural aid on works :
Dairy
Poultry
Fishery
Mushroom Cultivation
Animal Husbandry
Bee Keeping

PRACTICAL

Max. Marks	: 25 Marks
Practical	: 20 Marks
Internal Assessment	: 5 Marks

Visit to Poultry Farms, Fish Ponds, Apiary, Dairy Farms
 Raising various ornamental flowers of different seasons
 Maintenance of grassy lawns
 Study parts of 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. Srivastva, 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.

Paper - B

Max. Marks	: 75 Marks
Theory	: 70 Marks
Internal Assessment	: 5 Marks
Time	: 3 Hours

Period per week :
 1. THEORY – Three of 45 minutes duration.
 2. PRACTICAL – One of three hours duration.

Instructions for the paper setter:

1. Question paper shall have five sections.
2. Section A shall comprise 10 short answer type questions covering whole syllabus and will be compulsory. Each question will carry 1 (one) mark.
3. Section B, C, D and E shall have two questions each from respective sections, out of which one from each Unit is to be permitted. Each question will be of 15 (fifteen) marks.
4. 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

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.

MATHEMATICS

B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATIONS, 2013

Paper-I : ADVANCED CALCULUS

Max. Marks	:	67
Theory	:	60 marks
Internal Assessment	:	7 marks
Time	:	3 Hours

- Note :*
1. Syllabus of this paper is split into two sections—Section A and Section B. Four questions will be set from each section.
 2. A student will attempt five questions in all selecting at least two questions from each section. Each question will be of 12 marks.
 3. The teaching time shall be five periods per paper per week including tutorials.

SECTION-A

Definition of a sequence. Theorems on limits of sequences. Bounded and monotonic sequences. Cauchy's convergence criterion. Series of non-negative terms. Comparison Tests. Cauchy's Integral Test. Ratio Tests. Cauchy's Root Test. Raabe's and Logarithmic. De Morgan and Bertrand's tests. Gauss Test. Alternating series. Leibnitz's theorem. Absolute and conditional convergence.

Vector differentiation, Gradient, divergence and curl. Vector integration, Theorems of Gauss, Green, Stokes and problems based on these.

Continuity. Sequential continuity. Uniform continuity, Proof of chain rule of Differentiability.

SECTION-B

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.

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.
7. Murray R. Spiegel : *Theory and Problems of Advanced Calculus*, Schaum Publishing Co., New York.
8. Gorakh Prasad : *Integral Calculus*, Pothishala Pvt. Ltd., Allahabad.
9. S.C. Malik : *Mathematical Analysis*, Wiley Eastern Ltd., New Delhi.
10. O.E. Stanaitis : *An Introduction to Sequences, Series and Improper Integrals*, Holden – Dey, Inc., San Francisco, California.
11. Earl D. Rainville : *Infinite Series*, The Macmillan Company, New York.
12. Chandrika Prasad : *Text Book on Algebra and Theory of Equations*, Pothishala Pvt. Ltd., Allahabad.
13. N. Piskunov : *Differential and Integral Calculus*, Peace Publishers, Moscow.
14. Shanti Narayan : *A Course of Mathematical Analysis*, S. Chand and Company, New Delhi.
15. Murray, R. Spiegel : *Vector Analysis*, Schaum Publishing Company, New York.
16. N. Saram and S.N. Nigam : *Introduction to Vector Analysis*, Pothishala Pvt. Ltd., Allahabad.
17. Shanti Narayan : *A Text Book of Vector Calculus*, S. Chand & Co., New Delhi.

Paper-II : DIFFERENTIAL EQUATIONS

Max. Marks	:	67
Theory	:	60 marks
Internal Assessment	:	7 marks
Time	:	3 Hours

- Note :*
1. Syllabus of this paper is split into two sections—Section A and Section B. Four questions will be set from each section.
 2. A student will attempt five questions in all selecting at least two questions from each section. Each question will be of 12 marks.
 3. The teaching time shall be five periods per paper per week including tutorials.

SECTION-A

Exact differential equations. First order higher degree equations solvable for x , y , p . Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients. Homogeneous linear ordinary differential equations. Linear differential equations of second order. Transformation of the equation by changing the dependent variable/the independent variable. Method of variation of parameters.

Series solutions of differential equations—Power series method, Bessel, Legendre, Hermite and Hypergeometric equations.

SECTION-B

Bessel, Legendre, Hermite and Hypergeometric functions and their properties—convergence, recurrence and generating relations. Orthogonality of functions. Orthogonality of Bessel, Legendre and Hermite functions.

Laplace Transformation—Linearity of the Laplace transformation. Existence theorem for Laplace transforms of derivatives and integrals. Shifting theorems.

Differentiation and integration of transforms. Convolution theorem. Solution of integral equations and systems of differential equations using the Laplace transformations.

References :

1. Erwin Kreyszig : *Advanced Engineering Mathematics*, John Wiley & Sons Inc., New York, 1999.
2. D.A. Murray : *Introductory Course on Differential Equations*, Orient Longman (India), 1967.
3. A.R. Forsyth : *A Treatise on Differential Equations*, Macmillan and Co. Ltd., London.
4. Francis B. Hilderbrand : *Advanced Calculus for Applications*, Prentice Hall of India Pvt. Ltd., New Delhi, 1977.
5. Jane Cronin : *Differential Equations*, Marcel Dekkar, 1994.
6. Frank Ayres : *Theory and Problems of Differential Equations*, McGraw-Hill Book Company, 1972.
7. Richard Bronson : *Theory and Problems of Differential Equations*, McGraw-Hill Inc., 1973.
8. R.K. Jain and S.R.K. Iyenger : *Advanced Engineering Mathematics*, Narosa Publishers.

Paper-III : MECHANICS

Max. Marks	:	66
Theory	:	60 marks
Internal Assessment	:	6 marks
Time	:	3 Hours

- Note :*
1. Syllabus of this paper is split into two sections—Section A and Section B. Four questions will be set from each section.
 2. A student will attempt five questions in all selecting at least two questions from each section. Each question will be of 12 marks.
 3. The teaching time shall be five periods per paper per week including tutorials.

SECTION-A**Statics :**

Basic notion, Newton's laws of motion, system of two forces, parallelogram law of forces, resultant of two collinear forces, resolution of forces, moment of a force, couple, theorems on moment of a couple, coplanar forces, resultant of three coplanar forces acting at a point, algebraic method of finding the resultant of any number of coplanar concurrent forces, theorem of resolved parts, resultant of two forces acting on a rigid body, Varignon's theorem, generalized theorem of moments.

Equilibrium of two concurrent forces, equilibrium conditions for any number of coplanar concurrent forces, Lami's theorem. $\lambda - \mu$ theorem, theorems of moments, resultant of a force and a couple.

Equilibrium conditions for coplanar non-concurrent forces.

Friction : Definition and nature of friction, laws of friction, equilibrium of a particle on a rough plane.

Centre of gravity.

SECTION-B**Dynamics :**

Motion of a particle with constant acceleration, acceleration of falling bodies, motion under gravity, motion of a body projected vertically upwards: 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.

Curvilinear motion of a particle in a plane: Definition of velocity and acceleration, projectiles, motion in a circle, motion under constraint, central force motion.

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.

Free vibrations, the simple pendulum, the conical pendulum. Central Orbits. Kepler's laws of motion.

References :

1. S.L. Loney : *Statics*, Macmillan and Company, London.
2. R.S. Verma : *A Text Book on Statics*, Pothishala Pvt. Ltd., Allahabad.

3. S.L. Loney : *An Elementary Treatise on the Dynamics of a Particle and of Rigid Bodies*, Cambridge University Press, 1956.
 4. K.R. Chaudhery, A.C. Aggarwal : *Elements of Mechanics, Statics and Dynamics*, S. Chand and Company.
 5. S.L. Loney : *The Elements of Statics and Dynamics*, 5th edition, Cambridge University Press, 1947.
 6. Donald, T., Green Wood : *Principles of Dynamics*, Second Edition, Prentice Hall of India.
 7. M. Ray : *A Text Book on Dynamics*, S. Chand and Company, 1989.
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COMPUTER SCIENCE**B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2013****Scheme of Examination**

			<i>Exam. Hrs.</i>	<i>Ext.</i>	<i>Int.</i>	<i>Max. Marks</i>
Paper-A	: Theory	: Computer Organization & Architecture	3	65	10	75
Paper-B	: Theory	: Object Oriented Programming (Using C++)	3	65	10	75
Paper-C	: Practical	: Practicals based on Paper A and Paper B	3	50	--	50

Note : Practical marks will include the appropriate weightage for proper maintenance of lab. record.

Syllabus and Courses of Reading**Paper-A : COMPUTER ORGANIZATION AND ARCHITECTURE****Objective :**

The course is designed to provide inside details of computer system including processor, memory card & I/O devices and to solve problems using Assembly Language Programming.

- Note :*
- (i) The question paper will consist of four sections.
 - (ii) Examiner will set total of *nine* questions comprising *two* questions from each section and *one* compulsory question of short answer type covering whole syllabi.
 - (iii) The students are required to attempt *one* question from each section and the compulsory question.
 - (iv) All questions carry equal marks unless specified.

SECTION-A

1. *Representation of Information* : Number system, integer and floating point representation, character codes (ASCII, EBCDIC), error detection and correction codes.

SECTION-B

2. *Basic Building Blocks* : Boolean algebra, combinatorial logic design, flip-flops, registers, counters, ALU : arithmetic and logic unit operations, organization of control units, memory : types and organization, peripheral devices : I/O devices (video terminals and printers) and controllers, storage devices (tapes and disks), Programmed and interrupt control mechanism, I/O controllers, bus bandwidths.

SECTION-C

3. *Assembly Language Programming for INTEL 8086/8088 Machine* : Programmers model of a machine, example of a typical 16 or 32 bit processor, registers, addressing modes, instruction set, use of assembly language for specific programs for typical problems like : Table search, subroutines, symbolic and numeric manipulations and I/O.

SECTION-D

4. *System Maintenance* : Introduction to various physical components of a computer, physical inspection of IBM-PC and internal cards, Diagnostics on IBM-PC, Functional description of various modules and cards. Various types of displays and other peripherals used in IBM-PC, Installing software, and detection of viruses and protection on IBM-PC.

References :

1. Mano, M.M. : *Computer System Architecture*, 3rd Ed., Dec., 1998, PHI.
2. Tannenbaum, A.S. : *Structured Computer Organization*, 3rd 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*, 2nd Edition, Galgotia Pvt. Ltd.

Paper-B : OBJECT ORIENTED PROGRAMMING (USING C ++)**Objective :**

This course enables students to appreciate the concepts of OOP using C++ and to understand linear & non linear DS.

- Note :*
- (i) The question paper will consist of four sections.
 - (ii) Examiner will set total of *nine* questions comprising *two* questions from each section and *one* compulsory question of short answer type covering whole syllabi.
 - (iii) The students are required to attempt *one* question from each section and the compulsory question.
 - (iv) All questions carry equal marks unless specified.

SECTION-A

1. *Concepts of Object Oriented Programming* : Object, Class, Encapsulation, Data Hiding, Inheritance, Polymorphism. Analysis and design of system using Object Oriented Approach.
2. *Structure of a C++ Program* : Include files, Declaration of an object, Main function, I/O streams.
3. *Classes* : Class Declaration : Data Members, Member Functions, Private and Public members, data hiding and encapsulation, arrays within a class.

Class Function Definition : Member function definition inside the class declaration and outside the class declaration, scope resolution operator, Private and Public member function, Nesting of member functions.

SECTION-B

4. *Objects* : Creating Objects, Accessing class data members, Accessing member functions, Arrays of Objects, Objects as function arguments : Pass by value, Pass by Reference, Pointers to Objects.
5. *Constructors and Destructors* : Constructors : Declaration and Definition, Default Constructors, Parameterized Constructors, Copy Constructors. *Destructors* : Definition and use.

SECTION-C

6. *Function Overloading* : Function Overloading : Declaration and definition.
7. *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.

SECTION-D

8. *Data Structures* : Linked Lists, Queues, Stacks, Trees and Sorting algorithms.

References :

1. Stroustrup : *The C ++ Programming Language*, Addison Wesley.
2. Robert Lafore : *OOP in Turbo C++*, Galgotia.
3. E. Balaguruswamy : *Object Oriented Programming with C++*, TMH.
4. Herbert Schildt : *Schildt's Advanced Win 95 Prog. in C & C++*, TMH.
5. Herbert Schildt : *C++ The Complete Reference*, TMH.

Paper-C : PRACTICAL : Practicals based on Paper-A and Paper-B.

STATISTICS

B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2013

- Note :*
1. A candidate shall offer this subject in B.A./B.Sc. only if he/she takes up Mathematics as a subject in B.A./B.Sc.
 2. A candidate shall offer this subject in B.A./B.Sc. 2nd year only if he/she had taken up the corresponding subject in B.A./B.Sc. 1st year.
 3. There are three papers code named 201, 202 and 203 in the subject of Statistics in B.A./B.Sc. 2nd Year. These are to be taught simultaneously throughout the year.
 4. 4 lectures (45 minutes each) per paper per week amounting in all to 12 lectures for three papers shall be allocated for the teaching.

Paper-201 : STATISTICAL INFERENCE

Max. Marks	:	75
Theory	:	65 Marks
Internal Assessment	:	10 Marks
Time	:	3 Hours

- Note :*
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 section. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each section.
 2. Simple non-programmable calculator is allowed.
 3. Statistical tables and log tables will be provided on request.

SECTION-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.

SECTION-II

Statistical Tests and Interval Estimation : Null and alternative hypothesis, two types of errors 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, Yate's correction.

References :

1. Goon, A.M., Gupta, M.K., Das : *Fundamentals of Statistics*, Vol. I, World Press, Calcutta. Gupta, B. (2005)
2. Miller, I. and Miller, M. (2002) : *John E. Freund's Mathematical Statistics* (6th Edition, 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.

Paper-202 : SAMPLE SURVEYS, DESIGN AND ANALYSIS OF EXPERIMENTS

Max. Marks	:	75
Theory	:	65 Marks
Internal Assessment	:	10 Marks
Time	:	3 Hours

- Note :*
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 section. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each section.
 2. Simple non-programmable calculator is allowed.
 3. Statistical table and log tables will be provided on request.

SECTION-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.

SECTION-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, fundamental principles of design, basic designs—CRD, RBD, LSD and their analysis.

References :

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

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.

Paper-203 : PRACTICAL

Max. Marks : 50
Time : 3 Hours

(Viva-Voce : 10 marks; Record of the year : 10 marks; Annual Paper : 30 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 10 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 $p = p_0$.
3. Large sample tests for means and proportions, tests of goodness of fit and independence of attributes in contingency tables.
4. Selection of sample and determination of sample size : Simple random sampling (SRS), stratified SRS, allocation problems in stratified SRS and systematic sampling.
5. Analysis of variance for one-way and two-way classifications. Analysis of CRD, RBD, and LSD.

APPLIED STATISTICS

B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2013

- 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 are two papers code named Papers A and B in the subject of Applied Statistics in B.A./B.Sc., each of one credit and having a total of 100 marks. These are to be taught simultaneously throughout the year.
 4. 4 to 5 lectures (40 minutes each) per paper per week amounting in all to 9 lectures for two papers shall be allocated for the teaching.

Paper-A : MATHEMATICAL METHODS-II

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

- 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 section. The candidates will be required to attempt five (5) questions in all including the compulsory first question and two questions from each section.

SECTION-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 4×4 matrices only).

SECTION-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.
2. Ayres, F. (1980) : *Matrices*, Schaum Series.

Books Suggested for Supplementary Readings :

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

Paper-B : STATISTICAL METHODS

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

- 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 section. The candidates will be required to attempt five (5) questions in all including the compulsory first question and two questions from each section.
 2. Simple non-programmable calculator is allowed.
 3. Statistical tables and log tables will be provided on request.

SECTION-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.

SECTION-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).

Book Recommended :

Goon, A.M., Gupta, M.K. and Dasgupta, B. (2005) : *Fundamentals of Statistics*, Vol. 1 to 6, 9, 10, 13 (only the relevant portion from these chapters as suggested by the Body of the syllabus.

PHYSICS

B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2013

Objectives :

Principles of Communication Systems :

The objective of Principles of Communication Systems course is to develop student's understanding with communication principles, Components of superheterodyne receivers and recorders, Digital audio, understanding of fundamentals of B/W and Colour Video transmission and Television receivers.

Microprocessor Based Systems :

The objective of Microprocessor Based Systems course is to cover various aspects of 8085 microprocessor hardware and instruction architecture, interfacing with RAM and ROM, and I/O devices, I/O data transfer, 8155 programmable device, instruction set and programming applications.

Practicals

The objective of PRACTICALS course is 8085 microprocessor programming, Understanding of Television, Sequential digital circuits.

- Note :*
1. There will be three papers of theory and one laboratory (practical) course.
 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 will be three hours and four hours for practical.
 4. Each theory paper will consist of nine questions carrying equal marks and spread over five prescribed units.
 5. Eight questions in each theory paper will be set from units I to IV i.e. two questions from each unit.
 6. Ninth question in each paper is compulsory and will comprise of seven small answer type questions covering the whole syllabus.
 7. The numerical problems/exercises in the question paper should be 25-30%.
 8. Student will attempt one question from each unit (I-IV) and any six parts of question nine.
 9. The use of Non-programmable calculators will be allowed (paper setters should explicitly mention this on the question paper) in the examination centre but these will not be provided by the University/College. Mobile phones and pagers are not allowed in the examination hall.

Papers, marks and teaching hours allocation :

Paper A : Statistical Physics and Thermodynamics	(45 + 5*) marks	Total Teaching hrs.** 60
Paper B : Optics and Lasers	(45 + 5*) marks	Total Teaching hrs.** 60
Paper C : Quantum Physics	(45 + 5*) marks	Total Teaching hrs.** 60
Physics Practicals :	50 marks	Total Teaching hrs. 90

* marks allotted for internal assessment.

**within the prescribed teaching load, teachers must give two assignments per paper per academic term (July – September, October – December, January – March) with stress on problem solving to enhance the skill component of the students.

Paper A : STATISTICAL PHYSICS AND THERMODYNAMICS**(60 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-Boltzmann statistics applied to an ideal gas in equilibrium, experimental verification of Maxwell-Boltzmann'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.

UNIT-III

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-IV

Derivation of Maxwell's thermodynamical relations, 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.

UNIT-V

Spread over the entire syllabi of all the four units above.

Books Suggested :*Essential Readings :*

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

Further Readings :

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

Paper-B : OPTICS AND LASERS**(60 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. Michelson interferometer—working, principle and nature of fringes. Interference in thin films, Role of interference in anti-reflection and high reflection dielectric coatings. 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 at rectangular and circular apertures. Effects of diffraction in optical imaging, resolving power of optical instruments. The diffraction grating, its use as a spectroscopic element, resolving power. 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).

UNIT-III

Laser Fundamentals : Derivation of Einstein relations, concept of stimulated emission and population inversion. Broadening of spectral lines, natural, collision and doppler broadening. Line width, line profile. Absorption and amplification of a parallel beam of light passing through a medium. Threshold condition. Three level and four level laser schemes. Elementary theory of optical cavity, longitudinal and transverse modes.

UNIT-IV

Laser Systems and Fiber Optics : Types of lasers, Ruby and Nd : YAG lasers. He-Ne and CO₂ lasers – construction, mode of creating population inversion and output characteristics. Semiconductor lasers, Applications of lasers—a general outline, Holography. Fiber fundamentals, wave propagation and dissipation of energy applications.

UNIT-V

Spread over the entire syllabi of all the four units above.

Books Suggested :*Essential Readings :*

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| 1. | Jenkins and White | : | <i>Optics</i> , McGraw Hill. |
| 2. | Ghatak, Ajoy | : | <i>Optics</i> , McMillan India. |
| 3. | Silfvast, W.T. | : | <i>Laser Fundamentals</i> , Foundation Books. |
| 4. | Laud, B.B. | : | <i>Lasers and Non-linear Optics</i> , Wiley Eastern Limited. |
| 5. | Keiser | : | <i>Optical Fiber Communication</i> , MH. |

Further Readings :

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| 1. | Born and Wolf | : | <i>Optics</i> , Pergmon. |
| 2. | Svelto | : | <i>Lasers</i> , Pergmon. |

Paper-C : QUANTUM PHYSICS**(60 Hrs.)****UNIT-I***Formalism of Wave Mechanics :*

- (i) Brief introduction to need and development of quantum mechanics, wave-particle duality (photon as particle, de-Broglie hypothesis, particle diffraction, particle interference), wave packet, indeterminacy, complementarity.
(Chapter 1 of book 1 in particular section 1.13 to 1.18)
- (ii) Schrödinger equation for a free particle, operator correspondence and equation for a particle subject to forces. Normalization and probability interpretation of wave function, superposition principle, expectation value, probability current and conservation of probability, admissibility conditions on the wave function, Ehrenfest theorem.
(Chapters 2A, 2B of book 1 or 2.8 to 2.10, 4.4–4.6 of book 2)
- (iii) Fundamental postulates of wave mechanics. Eigenfunctions and eigenvalues, operator formalism, orthogonal systems, expansion in eigenfunctions, Hermitian operators, simultaneous eigenfunctions, equation of motion.
(Section 3.2A of book 1 and section 6.1-6.8, 6.11 of book 2)
- (iv) Uncertainty of position and momentum, monochromatic waves, Gaussian wave packet.
(Section 3.1-3.6 of book 2 or 3.11-3.12 of book 1)

UNIT-II*Problems in One and Three Dimensions :*

- (i) Time dependent Schrödinger equation, Application to stationary states for one dimension, Potential step, potential barrier, rectangular potential well, degeneracy, orthogonality, linear harmonic oscillator.
- (ii) Schrödinger equation for spherically symmetric potential, spherical harmonics, hydrogen atom energy levels and eigenfunctions, degeneracy, angular momentum.
(Section 5.1–5.4, 5.8–5.11, 7.1–7.3, 7.7 of book 2)

UNIT-III*One Electron Atomic Spectra :*

- (i) Interaction with radiation, transition probability, spontaneous transition, selection rules and life times.
(Section 6.3, 6.4 of book 4 or 11.7 of book 1)
- (ii) Spectrum of hydrogen atom, fine structure, normal Zeeman effect, electron spin, 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).
(Section 4.1– 4.6 of book 4 or chapters 6 & 7 of book 3)

UNIT-IV*Many Electron System Spectra :*

- (i) Exchange symmetry of wave functions, exclusion principle, shells, subshells in atoms, atomic spectra (Helium), LS coupling, JJ coupling, selection rules, regularities in atomic spectra.
- (ii) X-ray spectra, Mosley law, absorption spectra, Auger effect.
- (iii) Molecular bonding, molecular spectra, selection rules, symmetric structures, rotational, vibrational electronic level and spectra of molecules, magnetic resonance experiments, Raman spectra.
(Section 5.1, 5.2, 5.4–5.7, 6.7 of book 4 and chapters 7 & 8 of book 3)

UNIT-V

Spread over the entire syllabi of all the four units above.

Books Suggested :*Essential Readings :*

1. Mathews, P.M. and Venkatesan, K. : *A Text Book of Quantum Mechanics*, T.M.H., 1997.
2. Powell, J.L. and Craseman : *Quantum Mechanics*, Narosa Pub., 1997.
3. Beiser, A. : *Concepts of Modern Physics*, McGraw Hill, 4th Edition.
4. Patil, S.H. : *Elements of Modern Physics*, McGraw Hill, 1998.

Further Readings :

1. Merzbacher, E. : *Quantum Mechanics*, II Ed., John Wiley.
2. Eisberg, R. & Resnick, R. : *Quantum Physics of Atoms, Molecular . . .*, John Wiley, 1974.
3. Banwell, C.N. : *Fundamentals of Molecular Spectroscopy*, T.M.H., 1972.
4. Kuhn, H.G. : *Atomic Spectra*, Academic Press, N.Y.

PRACTICALS (90 Hours)

Total Marks : 50

General Guidelines for Physics Practical Examination, 2013

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 marks
 - (ii) Brief theory. 05 marks
 - (iii) One exercise based on experiment or Computer Programming (To be allotted by the external examiner at the time of examination) 10 marks
 - (iv) Viva-Voce 10 marks
 - (v) Record (Practical file) 05 marks

Note for Examiners :

The marks scored under each head must be clearly so written on the answer sheet.

2. There will be one session of 4 hours duration. The paper will have two sections. Section A will consist of 8 experiments out of which an examinee will mark 6 experiments and one of these is to be allotted by the external examiner.
3. Section-B will consist of exercises 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.
4. The examiner should take care that the experiment allotted to an examinee from Section-A and exercises allotted from Section-B are not directly related to each other.
5. *Number of candidates in a group for practical examination should not exceed 12.*
6. In a single group, no experiment be allotted to more than three examinees in the group.

List of Experiments :**I Statistical Physics and Thermodynamics :***Activities :*

- (i) Adiabatic expansion of a gas.
- (ii) Thermal expansion of crystal using interference fringes.
- (iii) Thermal conduction in poor conductor (variation with geometry) by Lee's method.
- (iv) Thermo emf calibration, comparison.
- (v) Total radiation law, temperature dependence of radiation.
- (vi) Probability distribution using coloured dice, coins.

II Optics and Lasers :*Activities :*

- (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) Set up Newton's rings to determine wave length of sodium light.
- (xii) To determine the wave length of a given light using biprism.
- (xiii) To determine the wave length and dispersive power using plane diffraction grating (use Hg source).
- (xiv) To determine the resolving power of a telescope.
- (xv) To determine the resolving power of a grating.
- (xvi) To measure an inaccessible height using sextant.
- (xvii) To determine the principal points of a lens system.
- (xviii) To determine the divergence and wave length of a given laser source.

III Quantum Physics :*Activities :*

- (xix) Study the Photoelectric effect and determine the value of Planck's constant.
- (xx) To study the gas discharge spectrum of hydrogen.
- (xxi) To study the absorption spectra of iodine vapours.
- (xxii) To determine the ionization potential of mercury.

Exercises : Any exercise out of the following list of sixteen exercises :

General exercises :

1. To measure the angle of rotation of plane of polarization for the given liquid.
2. To measure the diameter of Newton's rings.
3. To determine the least count and setup the spectrometer for minimum deviation position of the prism.
4. Study of variation of light intensity using photovoltaic cell/inverse square law.
5. To measure the thermo e.m.f.
6. To determine the heating efficiency of an electric kettle with varying voltages.
7. To determine the angle of wedge using interference method.
8. To measure the angle of elevation of a tall building.

Computer Based Activities :

9. Motion of particle in a central force field.
10. Calculation of days between two dates of a year.
11. To check if triangle exists and the type of the triangle.
12. To find the sum of the sine and cosine series and print out the curve.
13. Motion of a projective using computer simulation.

Text and Reference Books :

1. Khandelwal, D.P. : *A Laboratory Manual of Physics for Undergraduate Classes.*
 2. Arora, C.L. : *B.Sc. Practical Physics, S. Chand.*
 3. Dixon, C. : *Numerical Analysis.*
 4. Lipsdutz, S. and Poe, A. : *Schaum's Outline of Theory and Problems of Programming with Fortran, McGraw-Hill Int.*
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CHEMISTRY

B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2013

Scheme of Teaching and Examination

<i>Paper</i>	<i>Course</i>	<i>Teaching Hrs.</i>		<i>Max. Marks</i>
V	Inorganic Chemistry	60	3 periods per week	45 +5
VI	Organic Chemistry	60	3 periods per week	45 +5
VII	Physical Chemistry	60	3 periods per week	45 +5
VIII	Laboratory Practicals		6 periods per week	45 +5
Total :			15 Periods/week	200

Paper- V : INORGANIC CHEMISTRY

Max. Marks	:	50
Theory	:	45
Internal Assessment	:	05
Time	:	3 Hours
60 hours (2Hrs./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) (3 Year course) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I

Chemistry of Elements of First Transition Series :

8 Hrs.

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.

Chemistry of Elements of Second and Third Transition Series :

7 Hrs.

General characteristics, comparative treatment with their $3d$ -analogues in respect of ionic radii, oxidation states, magnetic behaviour, spectral properties and stereochemistry.

UNIT-II**Chemistry of Coordination Compounds :**

15 Hrs.

Werner's coordination theory and its experimental verification, effective atomic number concept, chelates, nomenclature of coordination compounds, isomerism in coordination compounds, valence bond theory of transition metal complexes. Properties of Coordination compounds i.e. magnetic properties, colours (Qualitative approach only), use of coordination compounds.

UNIT-III**Chemistry of Lanthanide Elements :**

6 Hrs.

Electronic structure, oxidation states and ionic radii and lanthanide contraction, complex formation, occurrence and isolation, lanthanide compounds.

Chemistry of Actinides :

4 Hrs.

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.

Acids and Bases :

5 Hrs.

Arrhenius, Bronsted-Lowry, the Lux-Flood, solvent system and Lewis concepts of acids and bases.

UNIT-IV**Oxidation and Reduction :**

7 Hrs.

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.

Non-aqueous Solvents :

5 Hrs.

Physical properties of a solvent, types of solvents and their general characteristics, reactions in non-aqueous solvents with reference to liquid NH_3 and liquid SO_2 .

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) All questions carry equal marks.

Books Suggested :

- 1. Cotton, F.A., Wilkinson, G., Gaus, P.L. : *Basic Inorganic Chemistry*; 3rd Edition, Pubs: John Wiley Sons, 1995.
- 2. Lee, J.D. : *Concise Inorganic Chemistry*; 4th Edition, Pubs., Chapman Hall Ltd., 1991.
- 3. Shriver, D.E., Alkins, P.W. Langford, C.H. : *Inorganic Chemistry*; 4th Edition, Oxford Publisher: Oxford University Press, 2006.
- 4. Douglas, B. McDaniell, D., Alexander, J. : *Concepts and Models of Inorganic Chemistry*; 3rd 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*; 3rd Edition, Pubs: Pearson Education Inc., 2004.
- 7. Jolly, W.L. : *Modern Inorganic Chemistry*; 2nd 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*; 30th Edition, Pubs: Milestones 2006-07.

Paper-VI : ORGANIC CHEMISTRY

Max. Marks	:	50
Theory	:	45
Internal Assessment	:	05
Time	:	3 Hours
60 hours (2Hrs./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) (3 Year course) 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**Alcohols :**

8 Hrs.

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 alcohols - Nomenclature, methods of formation, chemical reactions of vicinal glycols. Oxidative cleavage [$\text{Pb}(\text{OAc})_4$ and HIO_4] and pinacol-pinacolone rearrangement. Trihydric alcohols - Nomenclature and methods of formation, Chemical reactions of glycerol.

Phenols :

7 Hrs.

Nomenclature, structure and bonding. 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, Hauben-Hoesch reaction, Lederer-Manasse reaction and Reimer-Tiemann reaction.

UNIT-II**Aldehydes and Ketones :**

15 Hrs.

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.

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, LiAlH_4 and NaBH_4 reductions.

UNIT-III

Carboxylic Acids :

8 Hrs.

Nomenclature, structure and bonding, physical properties, acidity of carboxylic acids, effects of substituents 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 acid (structural features only).

Methods of formation and chemical reactions of unsaturated monocarboxylic acids.

Dicarboxylic Acids: Methods of formation and effect of heat and dehydrating agents.

Carboxylic Acid Derivatives :

4 Hrs.

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).

Ethers and Epoxides :

3 Hrs.

Nomenclature of ether and methods of their formation, physical properties. Chemical reactions - 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.

UNIT-IV

Fats, Oils and Detergents :

3 Hrs.

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.

Organic Compounds of Nitrogen :

12 Hrs.

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.

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) All questions carry equal marks.

Books suggested :

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

Paper-VII : PHYSICAL CHEMISTRY

Max. Marks	:	50
Theory	:	45
Internal Assessment	:	05
Time	:	3 Hours
60 hours (2Hrs./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) (3 Year course) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I**Liquid State :**

9 Hrs.

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.

Chemical Equilibrium :

6 Hrs.

Equilibrium constant and free energy, Thermodynamic derivation of law of mass action, Le - Chatelier's principle.

Reaction isotherm and Reaction isochore, Clapeyron equation and Clausius–Clapeyron equation, applications.

UNIT-II**Thermodynamics-II :**

9 Hrs.

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.

Thermodynamics-III :

6 Hrs.

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.

UNIT-III**Phase Equilibrium :**

8 Hrs.

Statement and meaning of the terms – phase, component and degree of freedom, derivation of Gibbs phase rule, phase equilibria of one component system—water, CO₂ 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-H₂O) system. Freezing mixtures, acetone-dry ice.

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

Lower and upper consolute temperature, Effect of impurity on consolute temperature, immiscible liquids, steam distillation, Nernst distribution law - thermodynamic derivation, applications.

Electrochemistry-I :

7 Hrs.

Electrical transport – Conduction in metals and in electrolyte solutions, specific conductance and equivalent conductance, measurement of equivalent conductance, variation of equivalent and specific conductance with dilution.

Migration of ions and Kohlrausch Law, Arrhenius theory of electrolyte dissociation and its limitations, weak and strong electrolytes, Ostwald's dilution law, its uses and limitations. Debye-Huckel-Onsager's equation for strong electrolytes (elementary treatment only), Transport number, definition and determination by Hittorf method and moving boundary method.

UNIT-IV**Electrochemistry-II :**

15 Hrs.

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.

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 (ΔG , ΔH 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) All questions carry equal marks.

Books Suggested :

1. Atkins, P., Paula, J.de : *Atkins Physical Chemistry*; 8th Edition, Pubs: Oxford University Press, 2008.
2. Puri, B.R., Sharma, L.R., Pathania, M.S. : *Principles of Physical Chemistry*; 43rd Edition, Pubs: Vishal Publishing Co., 2008.
3. Barrow, G.M. : *Physical Chemistry*; 6th 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*; 2nd Edition, Pubs: Oxford University Press, 2000.
6. Albert, R.A., Silbey, R.J. : *Physical Chemistry*; 1st 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*; 5th 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, 2nd Edition, Pubs: McGraw-Hall Book Company, 1989.

Paper-VIII : LABORATORY PRACTICALS**Max. Marks : 45+5****6 Periods/week****Inorganic Chemistry***Quantitative Analysis*

Volumetric Analysis:

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

*Gravimetric Analysis :*Analysis of Cu as CuSCN and Ni as Ni (dimethylglyoxime)₂.**Organic Chemistry**

Laboratory Techniques :

- (a) Determination of R_f values and identification of organic compounds. Separation of isomeric mixture of ortho and para-nitroaniline 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.

Physical Chemistry

Thermochemistry :

- (a) To determine the solubility of benzoic acid at different temperatures and to determine ΔH of the dissolution process.
- (b) To determine the enthalpy of neutralization of a weak acid/weak base versus strong base/strong acid and determine the enthalpy of ionization of the weak acid/weak base. pH of a Buffer solution; Determination of ionization constant of a weak acid.

General Instructions 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/TLC experiment/
extraction of caffeine) | 16 marks |
| | | Students shall be allowed the choice to opt for one experiment out of the three
offered. | |
| Q. No. | II | Quantitative Analysis | 10 marks |
| Q. No. | III | Physical Chemistry | 10 marks |
| Q. No. | IV | Viva-Voce | 6 marks |
| | | Ask three questions (2 marks each) related to chemistry practicals. | |
| Q. No. | V | Note Book | 3 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*; 4th Edition, Pubs: Longman Group, 1978.
 2. Bansal, R.K. : *Laboratory Manual of Organic Chemistry*; 3rd 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*; 5th Edition, Pubs: Dorling Kindersley (India) Pvt. Ltd., Delhi, 2006.
 4. Khosla, B.D., Garg, V.C., Gulati, A. : *Senior Practical Physical Chemistry*; 11th 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*; 8th Edition, Pubs: Longman Group Ltd., London & New York, 1978.
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BOTANY**B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2013**

		<i>Time</i>	<i>Theory</i>	<i>Int. Assess.</i>	<i>Max. Marks</i>
Theory Paper A :	Diversity of Seed Plants and their Systematics	3 hrs.	68	7	75
Theory Paper B :	Structure, Development and Reproduction in Flowering Plants.	3 hrs.	68	7	75
One practical paper pertaining to entire syllabus included in both theory papers.		4 hrs.	45	5	50
Total :					200

- Note :*
1. The number of teaching hours for theory and practical per session shall be 120 hrs. and 200 hrs. respectively.
 2. There will be a total of nine questions in each theory paper A & B. Question No. 1 will be compulsory and will consist of 20 parts (one mark each) comprising 10 MCQ and the rest 10 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 20 marks and the rest of 8 questions will be of 12 marks each.

Paper A : DIVERSITY OF SEED PLANTS AND THEIR SYSTEMATICS

Max. Marks	:	75
Theory	:	68 Marks
Internal Assessment	:	7 Marks
Time	:	3 Hours

Objective :

This paper deals with most advance and evolved group of plants i.e. Gymnosperms and Angiosperms. The study of gradual transition from seed less plants (studied in first year) to seed plants would make students familiar with origin of structural and functional complexity in plant Kingdom. The systematic 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/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.

SECTION-I : GYMNOSPERMS**UNIT-I**

1. General characteristics, basis of classification and economic importance of gymnosperms.
2. Fossil gymnosperms : *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-II

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) *Cycas*
- (b) *Pinus*
- (c) *Ephedra*

SECTION-II : ANGIOSPERMS**UNIT-III**

1. General characters of Angiosperms.
2. Plant nomenclature and International Code of Botanical Nomenclature : Principles and rules; taxonomic ranks; type concept; principle of priority, aims and objectives of plant taxonomy; a brief introduction to taxonomy as synthetic discipline.
3. Salient features of Bentham and Hooker's, Hutchinson's and Engler & Prantl's system of classification (Details of Bentham and Hooker's system only).
4. Terminology pertaining to floral description.

5. Criteria for determining primitive and advanced nature of flower.
6. General account and diagnostic features of the following families (excluding economic importance) :

Liliaceae	:	<i>Asphodelus/Asparagus</i>
Orchidaceae	:	<i>Zeuxine</i>
Gramineae (Poaceae)	:	<i>Triticum</i>

UNIT-IV

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

Ranunculaceae	:	<i>Ranunculus, Delphinium</i>
Brassicaceae	:	<i>Brassica</i>
Rutaceae	:	<i>Citrus, Murraya</i>
Malvaceae	:	<i>Hibiscus</i>
Fabaceae	:	<i>Lathyrus, Cassia, Acacia</i>
Cucurbitaceae	:	<i>Luffa</i>
Umbelliferae (Apiaceae)	:	<i>Coriandrum</i>
Compositae (Asteraceae)	:	<i>Helianthus, Ageratum/Parthenium</i>
Asclepiadaceae	:	<i>Calotropis</i>
Solanaceae	:	<i>Solanum, Petunia</i>
Labiatae (Lamiaceae)	:	<i>Ocimum</i>
Chenopodiaceae	:	<i>Chenopodium</i>
Euphorbiaceae	:	<i>Euphorbia</i>

Suggested Readings :

1. Bhatnagar, S.P. and Moitra, A. : *Gymnosperms*, New Age International Limited, New Delhi, 1996.
2. Davis, P.H. and Heywood, V.H. : *Principles of Angiosperm Taxonomy*, Oliver and Boyd, London, 1963.
3. Gifford, E.M. and Foster, A.S. : *Morphology and Evolution of Vascular Plants*, W.H. Freeman & Company, New York, 1988.

4. Goyal, J.P. and Saini, A. : *Angiosperms : Structure Development and Reproduction*, Trueman Book Co. Jalandhar & New Delhi, 2006.
5. Heywood, V.H. and Moore, D.M. (eds.) : *Current Concepts in Plant Taxonomy*, Academic Press, London, 1984.
6. Jeffrey, C. : *An Introduction to Plant Taxonomy*, Cambridge University Press, London, 1982.
7. Jones, S.B., Jr. and Luchsinger A.E. : *Plant Systematics (2nd Edition)*, McGraw Hill Book Co., New York, 1986.
8. Maheshwari, J.K. : *Flora of Delhi*, CSIR, New Delhi, 1963.
9. Radford, A.E. : *Fundamentals of Plant Systematics*, Harper and Row, New York, 1986.
10. Singh, G. : *Plant Systematics : Theory and Practice*, Oxford and IBH Pvt. Ltd., New Delhi, 1999.
11. Sporne, K.R. : *The Morphology of Gymnosperms*, Hutchinson & Co. (Publishers) Ltd., London, 1965.
12. Srivastava, H.N. : *Diversity of Seed Plants and their Systematics, Vol. III*, Pradeep Publications, Jalandhar, 2006.
13. Stace, C.A. : *Plant Taxonomy and Biosystematics (2nd Edition)*, Edward Arnold, London, 1989.
14. Stewart, W.M. : *Paleobotany and the Evolution of Plants*, Cambridge University Press, Cambridge, 1983.

Paper B : STRUCTURE, DEVELOPMENT AND REPRODUCTION IN FLOWERING PLANTS

Max. Marks	:	75
Theory	:	68 Marks
Internal Assessment	:	7 Marks
Time	:	3 Hours

- Note :**
1. The number of teaching hours for theory and practical per session shall be 120 hrs. and 200 hrs. respectively.
 2. There will be a total of nine questions in each theory paper A & B. Question No. 1 will be compulsory and will consist of 20 parts (one mark each) comprising 10 MCQ and the rest 10 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 20 marks and the rest of 8 questions will be of 12 marks each.

Objective :

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 diversity in 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

1. The basic body plan of a flowering plant.
2. Diversity in plant form in annuals, biennials and perennials.
3. *Leaf* : Origin, development, arrangement and diversity in size and shape, and modifications; internal structure (dicot and monocot leaves).
4. *Root System* : Structural modifications for storage, respiration and reproduction.

UNIT-II

1. *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 (Maize).
2. Anomalous stem structure in *Boerhaavia*, *Nyctanthes*, *Mirabilis* and *Dracaena*.
3. Various methods of vegetative propagation.

UNIT-III

Flower : As a modified shoot, functions; Structure of anther and pistil; Male and female gametophytes; Double fertilization and its significance; Different types of ovules and embryo-sacs.

UNIT-IV

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; Seed formation : development of endosperm and embryo; Fruit development and maturation. Significance of Seed : Suspended animation; Ecological adaptation; Dispersal strategies.

Suggested Readings :

1. Bhojwani, S.S. and Bhatnagar, S.P. : *The Embryology of Angiosperms*, 4th Revised and Enlarged Edition, Vikas Publishing House, Delhi, 2000.
2. Cutter, E.G. : *Part I, Cells and Tissues*, Edward Arnold, London, 1969.
3. Cutter, E.G. : *Plant Anatomy : Experiments and Interpretation, Part II, Organs*, Edward Arnold, London, 1971.
4. Esau, K. : *Anatomy of Seed Plants*, 2nd Edition, John Wiley & Sons, New York, 1977.
5. Fageri, K., and Van Der Pijl : *The Principles of Pollination Ecology*, Pergamon Press, Oxford, 1979.
6. Fahh, A. : *Plant Anatomy*, 2nd Edition, Pergamon Press, Oxford, 1974.
7. Hartmann, H.T., and Kestler, D.E. : *Plant Propagation : Principles and Practices*, 3rd Edition, Prentice Hall of India Pvt. Ltd., New Delhi, 1976.
8. King, J. : *Reaching for the Sun : How Plants Work*, Cambridge University Press, Cambridge, U.K., 1997.
9. Mauseth, J.D. : *Plant Anatomy*, The Benjamin/Cummings Publishing Company Inc., Menlo Park, California, U.S.A., 1988.
10. Proctor, M. and Yeo, P. : *The Pollination of Flowers*, William Collins Sons, London, 1973.
11. Raven, P.H., Evert, R.F. and Eichhorn, S.E. : *Biology of Plants*, 5th Edition, W.H. Freeman and Co., Worth Publishers, New York, 1999.
12. Thomas, P. : *Trees : Their Natural History*, Cambridge University Press, Cambridge, 2000.

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 and old).
 - (iii) Study through permanent slides :
 - (a) L.S. female cone.
 - (b) L.S. male cone.
4. Preparation of permanent stained slides to show :
 - (i) Anomalous internal structure of stem in *Boerhaavia*, *Nyctanthes*, *Mirabilis* and *Dracaena*.
 - (ii) T.S. Dicot stem & root (*Helianthus*).
 - (iii) T.S. Monocot stem & root (Maize).
5. 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.

Note : To make the students familiar with plants, (preferably pertaining to syllabus) the teachers are required to organize excursions to forests and hills.

Guidelines for Botany Practical Examination:

	Max. Marks	: 50
	Theory	: 45 Marks
	Internal Assessment	: 5 Marks
	Time	: 4 Hours
1.	Cut T.S. of specimen A. Make its permanent stained slide. Draw its well Labelled diagram and show it to the examiner. Identify the slide giving at least two reasons.	10
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 giving at least two reasons (The specimen B or C is to be given to the alternately seated students).	10
3.	Write illustrated morphological note on specimen D & E (from Gymnosperms).	8
4.	Identify slides F, G & H giving at least two reasons.	6
5.	Practical note book.	4
6.	Plant album.	3
7.	<i>Viva-Voce.</i>	4

ZOOLOGY

B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2013

Paper-A	: Biodiversity -III (Chordates) & Evolution	75	(67 + 8 marks)
Paper-B	: Biochemistry & Animal Physiology	75	(67 + 8 marks)
Practical	(Covering the entire syllabus) of 4 hours duration	50	(45 + 5 marks)
		Total :	200 marks

Note : The number of hours for Theory and Practical per week shall be 5 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–A : BIODIVERSITY III (CHORDATES) & EVOLUTION (ZOO 201)

Max. Marks	:	75
Theory	:	67 Marks
Internal Assessment	:	8 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 10 parts of 1½ marks 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).

Cyclostomata – External Characters of *Petromyzon* & affinities of Cyclostomata.

Pisces-Type study - *Labeo*, Scales & fins.

Classification of the animals up to orders relating to the following groups along with brief ecological notes of the following :

Protochordates	: <i>Herdmania</i> , <i>Molgula</i> , <i>Pyrosoma</i> , <i>Doliolum</i> , <i>Salpa</i> , <i>Oikopleura</i> , & <i>Amphioxus</i> (excluding development).
Cyclostomata	: <i>Myxine</i> , <i>Petromyzon</i> & <i>Ammocoetes</i> larva.
Chondrichthyes	: <i>Zygaena</i> (Hammer headed shark), <i>Pristis</i> (saw fish), <i>Narcine</i> (electric ray), <i>Trygon</i> , <i>Rhinobatus</i> and <i>Chimaera</i> (rabbit fish).
Actinopterygii	<i>Polypterus</i> , <i>Acipenser</i> , <i>Lepisosteus</i> , <i>Muraena</i> , <i>Mystus</i> , <i>Catla</i> , <i>Hippocampus</i> , <i>Syngnathus</i> , <i>Exocoetus</i> , <i>Anabas</i> , <i>Diodon</i> , <i>Tetradon</i> , <i>Echeneis</i> and <i>Solea</i> .
Dipneusti (Dipnoi)	: <i>Protopterus</i> (lung fish)

UNIT-II

Amphibia – Origin, Type study-Frog.

Reptilia-Type study-*Uromastix*, Origin, Extinct reptiles, Poisonous and non-poisonous snakes, Poison apparatus.

Classification of the animals up to orders relating to the following groups along with brief ecological notes of the following :

Amphibia	: <i>Uraeotyphlus</i> , <i>Necturus</i> , <i>Ambhiuma</i> , <i>Amblystoma</i> and its Axolotl Larva, <i>Triton</i> , <i>Salamandra</i> , <i>Hyla</i> , <i>Rhacophorus</i> .
Reptilia	: <i>Chelone</i> (turtle) and <i>Testudo</i> (Tortoise), <i>Hemidactylus</i> (wall lizard), <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>Bungarus</i> , <i>Naja</i> , <i>Hydrus</i> , <i>Vipera</i> , <i>Crocodilus</i> , <i>Gavialis</i> and Alligator.

UNIT-III

Aves-Type study-Pigeon, Flight adaptations.

Mammals - Type study-Rat, Adaptive radiations, Dentition.

Classification of the animals up to orders relating to the following groups along with brief ecological notes of the following :

Aves : *Ardea, Milvus, Pavo, Tyto, Alcedo, Eudynamis* and *Casuarius*.

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 and evidences of organic evolution.

Theories of organic evolution.

Origin of life.

Concept of micro, macro and mega-evolution.

Biological concept of species.

Fossils and evolutionary rate.

Evolution of man.

PAPER B : BIOCHEMISTRY & ANIMAL PHYSIOLOGY (ZOO 202)

Max. Marks : 75

Theory : 67 Marks

Internal Assessment : 8 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 10 parts of 1½ marks 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.

Carbohydrate metabolism : The Embden Meyerhoff, Parnas pathway, (glycolysis), the tricarboxylic acid cycle, the hexose monophosphate shunt, glycogenesis and glycogenolysis.

UNIT-II

Enzymes : Nature, their classification and coenzymes.

Lipid metabolism : β -oxidation of fatty acids, rate of glycerol and gluconeogenesis, interaction of carbohydrates and lipids, lipogenesis in tissues, ketosis.

Protein metabolism : Protein metabolism of amino acids (Oxidative deamination, transamination and decarboxylation; hydrolysis of proteins and Ornithine cycle).

UNIT-III

Digestion : Digestion of dietary constituents, regulation of digestive processes and absorption. Types of nutrition, feeding mechanisms, extra and intra cellular digestion, enzymatic digestion and symbiotic digestion.

Blood : Composition and functions of blood and lymph. Molecular structure and function of haemoglobin, blood clotting. Blood groups including Rh. factor, haemopoiesis.

Heart : Origin and regulation of heart beat, cardiac cycle, electrocardiogram, cardiac output, fluid pressure and flow pressure in closed and open circulatory systems, blood pressure and micro- circulation.

Respiration : Transport of O₂ and CO₂, Oxygen dissociation curve of haemoglobin, Bohr effect, chloride (-) shift, Haldane effect and control of breathing.

UNIT-IV

Excretion	:	Urine formation and osmoregulation
Muscles	:	Ultrastructure, chemical and physiological basis of skeletal muscle contraction.
Neural Integration	:	Structure of neuron, resting membrane potential, origin and propagation of impulse along the axon, synapse and myoneural function.
Physiology of behaviour	:	Taxes and reflexes, instinctive and motivative, learning and reasoning.
Endocrine	:	Structure, hormones and functions of thyroid, parathyroid, adrenal, hypothalamus, pituitary, pancreas and gonads.

PRACTICALS : Practical based on Theory Papers ZOO 201 & 202 (ZOO 251)

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

Urochordata	:	<i>Herdmania, Molgula, Pyrosoma, Doliolum, Salpa & Oikopleura.</i>
Cephalochordata	:	<i>Amphioxus.</i>
Cyclostomata	:	<i>Myxine, Petromyzon & Ammocoetes</i> larva.
Chondrinchthyes	:	<i>Zygaena</i> (Hammer headed shark), <i>Pristis</i> (Saw fish), <i>Narcine</i> (Electric ray), <i>Trygon</i> , <i>Rhinobatus</i> , and <i>Chimaera</i> (Rabbit fish).
Actinoptergii	:	<i>Polypterus, Acipenser, Lepidosteus, Muraena, Mystus, Catla, Hippocampus, Syngnathus, Exocoetus, Anabas, Diodon, Tetradon, Echeneis</i> and <i>Solea.</i>
Dipneusti (Dipnoi)	:	<i>Protopterus.</i>
Amphibia	:	<i>Uraeotyphlus, Necturus, Amphiuma, Amblystoma</i> and its Axolotl larva, <i>Triton, Salamandra, Hyla, Rhacophorus.</i>
Reptilia	:	<i>Chelone</i> (Turtle) and <i>Testudo</i> (Tortoise), <i>Hemidactylus, Calotes, Draco, Varanus, Phrynosoma, Chamaeleon, Typhlops, Python, Eryx, Ptyas, Bungarus, Naja, Hydrus, Vipera, Crocodilus, Gavialis.</i>
Aves	:	<i>Casuaris, Ardea, Anas, Milvus, Pavo, Eudynamis, Tyto</i> and <i>Alcedo.</i>

Mammalia : *Ornithorhynchus, Echidna, Didelphis, Macropus, Loris, Macaca, Manis, Hystrix, Funambulus, Panthera, Canis, Herpestes, Capra, Pteropus.*

2. Examine and dissect the following animals :

Herdmania : General anatomy

Labeo : Digestive, reproductive systems, heart, afferent and efferent branchial arteries and cranial nerves.

Chick : Digestive, arterial, venous and urinogenital systems.

White Rat : Digestive, arterial, venous and urinogenital systems.

3. Study of the skeleton of *Labeo, Rana* (Frog), *Varanus, Gallus* and Rat/*Oryctolagus* (Rabbit).

4. Study of the following prepared slides :

T.S. *Amphioxus* through various regions.

Spicules & pharynx of *Herdmania* & pharynx of *Amphioxus*.

Histology of rat/rabbit (compound tissues).

5. Make temporary preparations of the following :

Temporary preparation of spicules of *Herdmania*.

Permanent preparation of whole mount of pharynx of *Herdmania* and *Amphioxus*.

Blood smear of a mammal.

6. Identification of food stuffs : Starch, glucose, proteins and fats in solution.

7. Demonstration of osmosis and diffusion.

8. Demonstrate the presence of amylase in saliva, denaturation by pH and temperature.

9. Determination of coagulation and bleeding time of blood in man/rat/rabbit.

10. Determination of blood groups of human blood sample.

11. Recording of blood pressure of man.

12. Analysis of urine for urea, chloride, glucose and uric acid.

13. Estimation of haemoglobin content.

Field study : Visit to a fossil Park/Museum.

Familiarity with the local vertebrate fauna.

Guidelines for conduct of Practical Examination :

Max. Marks	:	50
Practical Exam.	:	45 Marks
Internal Assessment	:	5 Marks
Time	:	4 Hours

1. Dissect the animal provided so as to expose its _____ system. Make labelled sketch of the dissection and demonstrate the same to the Examiner. (8)
2. Identify the given bones A & B. Make labelled sketches of their respective _____ views. (6)
3. Make temporary mount of the material C. Identify and make labelled sketch. Show the preparation to the Examiner. (3)

OR

Minor experiment of physiology such as blood groups determination/identification of some food stuffs/presence of chloride or glucose in urine etc.

4. Perform the given physiology experiment, write the procedure and show it to the examiner. (5)
5. Identify the slides D & E giving two reasons for each identification. (2+2=4)
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. (1+1+1) each $\times 4 = (12)$
7. Viva-Voce (4)
8. Note book (3)

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., Valentine, J.W. : *Evolution*, WH Freeman, 1952.
3. Colbert, E.H. : *Evolution of Vertebrates*, IInd Edition, Wiley Eastern Ltd., 1989.

4. Dhami, P.S. & Dhami, J.K. : *Vertebrates*, R. Chand & Co., New Delhi, 1998.
 5. Taneja, S.K. : *Biochemistry & Animal Physiology*, Trueman Book Co., 1997.
 6. Guyton, A.S. : *Text Book of Medical Physiology*, 7th Edition, W.B. Saunders Company, 1994.
 7. Robert, K., Murray, R.K., Daryl, M., Granner, K., Victor, W. and Woodwell : *Harper's Biochemistry*, 22nd Edition, Prentice-Hall International Inc., 1990.
 8. Nelson, D.L. and Cox, M.M. : *Lehninger Principles of Biochemistry*, 5th Edition, W.H., Freeman and Company, New York, 2008.
 9. Bhamrah, H.S., Juneja, K. : *Cytogenetics & Evolution*, Anmol Publication Pvt. Ltd., 1993.
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BIOCHEMISTRY**B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2013****Scheme of Examination**

	<i>Duration</i>	<i>Max. Marks</i>
Theory Paper-A : Metabolism	3 hrs.	67+8
Theory Paper-B : Biochemical Techniques	3 hrs.	67+8
One practical pertaining to the entire syllabus included in Theory Papers A & B	3 hrs.	45+5
Total Marks :		200

Paper-A : METABOLISM

Max. Marks	: 75
Theory	: 67 Marks
Internal Assessment	: 8 Marks
Time	: 3 Hours
(Three Periods per week)	

INSTRUCTIONS FOR PAPER-SETTER AND CANDIDATES :

1. Total No. of questions will be nine.
2. Q. Paper will be divided into 4 sections.
3. Attempt 5 questions in all selecting one question from each section. Q. No. 1 is **compulsory**.
4. Q. No. 1 will consist of 10 short questions covering entire syllabus and will carry 15 marks.
5. All other questions may contain 2-3 parts and will be of 13 marks each.

Objectives :

To learn digestion and absorption of major classes of biomolecules and major metabolic pathways pertaining to them.

SECTION-I

Digestion & Absorption of Carbohydrates :

(Lectures : 14)

Metabolic Pathways of Carbohydrates, Glycolysis and alcoholic fermentation, The Pentose Phosphate Pathway, Glucuronate and glyoxylate pathway, TCA cycle, Glycogenolysis & Glycogenesis, Gluconeogenesis, Biosynthesis of starch, Biosynthesis of Ascorbic acid.

SECTION-II

Digestion & Transport of Lipids :

(Lectures : 14)

β -Oxidation of fatty acids including odd chain fatty acids. α and ω oxidation of fatty acids Degradation of triglycerides and phospholipids. Formation and utilization of ketone bodies. Biosynthesis of saturated and unsaturated fatty acids. Biosynthesis of triglycerides and phospholipids, biosynthesis of cerebroside; sulfatides and gangliosides. Biosynthesis of Cholesterol. Biosynthesis of Prostaglandins, Thromboxanes, Leukotrienes, Lipoxins and Prostacyclins.

SECTION-III

Digestion of Proteins :

(Lectures : 11)

General Reactions of Amino Acids : Deamination, transamination and decarboxylation. Urea cycle.

Catabolism of Carbon Skeletons of Amino Acids :

Glycine and 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.

Biosynthesis of Nutritionally Non-Essential Amino Acids :

Glutamate and Glutamine, Aspartate and Asparagine, Proline, Alanine, Cysteine & Selenocysteine, Tyrosine, Serine, Glycine.

SECTION-IV

Nucleic Acids :

(Lectures : 11)

Degradation of purines and pyrimidines. Biosynthesis of purines, pyrimidines and nucleotides. Catabolism of Heme & Formation of Bile pigments. Biosynthesis of porphyrins and heme. Conjugation of bilirubin and its clinical significance.

Books Suggested :

1. *Biochemistry* by Lubert Stryer, 5th Ed., 2002, 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, 27th Ed., 2006, Prentice Hall International Ltd. (U.K.).

Paper- B : BIOCHEMICAL TECHNIQUES

Max. Marks	:	75
Theory	:	67 Marks
Internal Assessment	:	8 Marks
Time	:	3 Hours
(Three periods per week)		

INSTRUCTIONS FOR PAPER-SETTER AND CANDIDATES :

1. Total No. of questions will be nine.
2. Q. Paper will be divided into 4 sections.
3. Attempt 5 questions in all selecting one question from each section. Q. No. 1 is **compulsory**.
4. Q. No. 1 will consist of 10 short questions covering entire syllabus and will carry 15 marks.
5. All other questions may contain 2-3 parts and will be of 13 marks each.

Objectives :

Principles and applications of spectroscopic, electrophoretic, sedimentation, chromatographic and radioisotopic techniques.

SECTION-I**Spectroscopic Techniques :**

(Lectures : 13)

Beer-Lambert's Law. Light absorption and its transmittance. Determination and application of extinction coefficient. Applications of following spectroscopic techniques in elucidating structure of Biomolecules- Visible, U.V., infra-red and fluorescence spectroscopy. ORD, C.D. and N.M.R.

SECTION-II

Electrophoretic Techniques :

(Lectures : 13)

Principles and applications of the following electrophoresis techniques. Paper and gel electrophoresis, high voltage electrophoresis, SDS-PAGE : Discontinuous electrophoresis, isotachopheresis, isoelectric focussing and immunoelectrophoresis.

Centrifugation Techniques :

Various centrifugation techniques and their applications in Biochemistry. Preparative and analytical ultracentrifugation procedures. Application of partial specific volume, diffusion coefficient and viscosity measurements in the study of macromolecules of biochemical importance.

SECTION-III

Chromatographic Techniques :

(Lectures : 12)

General principles of chromatography and the application of following chromatographic procedures in isolation and purification of biomolecules : Absorption, partition, paper and thin layer chromatography. Gas liquid chromatography. High performance liquid chromatography (HPLC), Ion exchange and Exclusion chromatography. Affinity chromatography.

SECTION-IV

Radio Isotopic Techniques :

(Lectures : 12)

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.

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.

PRACTICALS :

Max. Marks : 50
Practical : 45 Marks
Internal Assessment : 5 Marks
(One Practical of 3 hrs.per week)

1. Estimation of blood glucose by the methods of (i) Folin Wu (ii) Nelson Somogyi.
2. Isolation and assay of glycogen from rat liver.
3. Separation and identification of amino acids by (i) Paper chromatography (ii) Thin layer chromatography.
4. Estimation of Ca^{+} in serum.
5. Estimation of total and free cholesterol in serum.
6. Estimation of total lipids in serum by Vanillin method.
7. Estimation of proteins by Lowry's method.
8. Estimation of Lipoproteins in plasma.
9. Colorimetric estimation of inorganic phosphate.
10. Separation of phospholipids by thin layer chromatography.
11. Estimation of lactic acid in blood before and after exercise.
12. Preparation of starch from potato and its hydrolysis by salivary amylase.

ELECTRONICS

B. Sc. (GENERAL) SECOND YEAR EXAMINATION, 2013

- Note :*
1. There will be two papers of theory and one laboratory (practical) courses.
 2. The number of lectures per week will be four for each theory paper.
 3. The number of lectures per week will be six for practicals.
 4. The examination time for each theory paper will be three hours.
 5. The examination time for practical will be 4 hours.
 6. The use of Non-programmable calculators will be allowed in the examination centre, but these will not be provided by the University/College.

Distribution of Marks & Total Teaching Hours will be as under :

Paper A :	Principles of Communication Systems : (67 + 8*) = 75 marks	Total Teaching Hours	75
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Paper B :	Microprocessor Based Systems : (67 + 8*) = 75 marks	Total Teaching Hours	75
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* Internal assessment

Electronics Practicals	: 50 marks	Total Teaching Hours	120
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Instructions for the Paper-Setter and the Students :

Each theory paper will consist of five units :

- | | |
|-----------------|---|
| UNIT-I | : There will be two questions from this unit. Each question will have two parts. Only one question is to be attempted. Each question will carry thirteen marks. |
| UNIT-II | : There will be two questions from this unit. Each question will have two parts. Only one question is to be attempted. Each question will carry thirteen marks. |
| UNIT-III | : There will be two questions from this unit. Each question will have two parts. Only one question is to be attempted. Each question will carry thirteen marks. |
| UNIT-IV | : There will be two questions from this unit. Each question will have two parts. Only one question is to be attempted. Each question will carry thirteen marks. |
| UNIT-V | : There will be eight questions of small answer type covering the syllabi of all the four units (I-IV). Five questions are to be attempted. Each question will carry three marks. |

Paper-A : PRINCIPLES OF COMMUNICATION SYSTEMS**UNIT-I****Communication Principles :**

Communication bands, basic principles of propagation of e.m. waves through atmosphere and ionosphere: ground wave, sky wave, space waves, Dead Zones, Concept of modulation and its advantages, qualitative treatment of FM, AM (DBS, SSB), PM.

Superhetrodyne Receivers :

Principles, advantages, RF input and AE coupling arrangement, RF amplifier, mixers, local oscillator, IF amplifier, detector, audio amplifier, loud speaker, tuning/alignment of receivers, trouble shooting of radio receiver.

UNIT-II**Tape Recorders :**

Principles of magnetic recording, playback principles, need for biasing, tape speed, magnetic tape, head care, head alignment, high frequency response, record replay equalization, noise, noise reduction, tape transport, tape recorder electronics, playback amplifier, record amplifier.

Digital Audio :

Sampling and Quantizing the input signal, recording system, playback, compact disc, CD player (block diagram).

UNIT-III**Elements of T.V. Systems :**

Overview of picture transmission, sound transmission, picture reception, sound reception, synchronization.

Composite Video Signal :

Scanning sequence details, sync details of 625 line system, channel band width, vestigial side band transmission, reception of vestigial side band signals, frequency modulation, FM channel band width, allocation of frequency bands for television, signal transmission, television standards.

Picture Tube- Monochromatic :

Beam deflection, screen phosphor, face plate, picture tube characteristics, picture tube circuit controls.

UNIT-IV**Television Receivers :**

Block diagram of black and white T.V. receivers, functions of various sections i.e. Balun, RF amplifier, mixer local oscillator, IF amplifier, video detector, video amplifier, sound IF, sound detector and amplifier, sync separators, horizontal and vertical oscillator and their synchronization, EHT section, AGC, DC power supply.

Fundamentals of Colour T.V.:

Concept of primary and complementary colours, colour mixing, beam splitting in camera, colour difference signals (U and V signals), luminance (Y) and chrominance (C) signals, compatibility with black and white signals, colour signal subcarrier, concept of colour picture tube (PIL).

Books Recommended :

1. G.K. Mitthal : Radio Engineering, Khanna Publishers.
2. Sanjay Attri : Audio and Video Systems, BPB Publications.
3. R.R. Gulati : Monochrome and Colour Television, New Age International New Delhi.

Paper- B : MICROPROCESSOR BASED SYSTEMS**UNIT-I****Microcomputer Fundamentals :**

Introduction, microcomputer architecture, memory organization, Memory classification, CPU organization, Microcomputer operation.

8085 Microprocessor Fundamentals :

Introduction, The 8085 pin diagram and functions, The 8085 microprocessor architecture, 8085 Bus system, Demultiplexing of 8085 bus system, The 8085 machine cycles.

UNIT-II**Interfacing the Microprocessor :**

Introduction to basic interfacing concepts, Interfacing of 8085 microprocessor with ROM and RAM, Interfacing of 8085 microprocessor with input/output devices, Synchronizing I/O data transfer using interrupts, Address decoding, Memory mapping, The 8155 multipurpose programmable device.

UNIT-III**Instruction Set :**

Machine and assembly language, Instruction set : data transfer instructions, arithmetic instructions, logical instructions, branch instructions, stack, I/O machine control instructions, addressing modes, Subroutine, CALL and RETURN instructions, Idea of counters, Time delays, Miscellaneous instructions.

UNIT-IV**Programming 8085 Microprocessor :**

Straight line programs, Program branching, Program looping, Program indexing, Mathematical programs addition with and without carry, subtraction, multiplication of two 8 bit numbers.

Applications of 8085 Microprocessor :

- (i) Traffic Control
- (ii) Temperature Control
- (iii) Digital Clock

Books Recommended :

1. Ramesh G. Gaonkar : Microprocessor Architecture, Programming and Applications, Prentice Hall Publications.
2. B. Ram : Fundamentals of Microprocessors and Microcomputers, Dhanpat Rai & Sons.
3. Bhupindra Singh Chhabra and Amrit Chhabra : 8085 Microprocessor and its Applications, Dhanpat Rai Publishing Co.

ELECTRONICS PRACTICALS**Guidelines for Electronics Practical Examinations :**

I *The distribution of marks is as follows :*

- | | | | |
|-------|---|---|----------|
| (i) | One full experiment requiring the student to take data, Analyse it and draw conclusions | : | 20 marks |
| (ii) | Brief Theory | : | 05 marks |
| (iii) | One exercise based on experiment (to be allotted by the examiner) | : | 10 marks |
| (iv) | Viva-Voce | : | 10 marks |
| (v) | Record (Practical file) | : | 05 marks |

- II There will be one session of 4 hours duration. The paper will consist of 8 experiments out of which an examinee will mark 6 and one of them will be allotted by the examiner.
- III Number of candidates in a group for practical examination should not exceed 12.
- IV In a single group, same experiment will not be allotted to more than three examinees in any group.

List of Experiments :

1. (a) Writing a program to add two 8 bit numbers stored in memory locations NNNN and NNNN+1 and place the result in the subsequent memory location NNNN+2.
(b) Writing a program to add two 8 bit numbers stored in memory locations NNNN and NNNN+1 and place the result (16 bits) in the subsequent memory location NNNN+2 and NNNN+3.
2. Writing a program to subtract one 8 bit number from the other 8 bit number stored in memory locations NNNN and NNNN+1 and place the result in the subsequent memory location NNNN+2.
3. Writing a program to add more than two 8 bit numbers stored in memory locations starting from NNNN and place the result (16 bits) in the subsequent memory locations.
4. Writing a program to multiply two 8 bit numbers stored in memory locations NNNN and NNNN+1 and place the result in the subsequent memory location NNNN+2 and carry at NNNN+3.
5. Writing a program to find smaller/larger of two 8 bit numbers stored in memory locations NNNN and NNNN+1 and place the result in the subsequent memory location NNNN+2.
6. Writing a program to transfer bulk of data from memory locations starting from NNNN to memory locations starting from MMMM.
7. Writing a program to find number of positive and negative numbers in the given data. Assume zeros as positive numbers.
8. To locate various blocks of T.V. as P.S., H and V deflection, Video Amplifier, Audio section, Chroma section, IF section, Tuner, Tube, deflection yokes etc.
9. VIF and SIF section—Testing, alignment and troubleshooting.
10. Vertical Amplifier section—Testing and troubleshooting.
11. Tuner—Testing and troubleshooting.
12. P. S. and Picture tube—Testing and troubleshooting.
13. Study of Modulo 10 Counters.
14. Study of operation of shift registers.
15. Study of DA and AD converters.

MICROBIOLOGY

B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2013

<i>Scheme of Examination</i>	<i>Duration</i>	<i>Max. Marks</i>
Theory : MIC 201 : Introduction to Medical Microbiology	3 hrs.	75 (67 + 8*)
Theory : MIC 202 : Introductory Immunology	3 hrs.	75 (67 + 8*)
One Practical pertaining to MIC-201 and MIC-202.	3 hrs.	50 (45 + 5*)
Total Marks :		200

Note : *Denotes marks for the Internal Assessment.

OUTLINES OF TESTS AND SYLLABI

MIC 201 : INTRODUCTION TO MEDICAL MICROBIOLOGY

Max. Marks	:	75
Theory	:	67 Marks
Internal Assessment	:	8 Marks
Time	:	3 Hours
(Three periods per week)		

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 the four sections and one is to be attempted. Each question should be sub-divided into 2-4 sub-parts.

Objectives :

The paper deals with diversification of microorganisms, various infectious diseases including their modes of transmission and events in infection process. It also provides knowledge about latest developments in chemotherapy.

SECTION-A

Brief introduction to terminology of Infectious diseases, Frequency of disease, Recognition of Infectious disease, Infections, Disease cycle, Virulence and mode of transmission, Emerging and reemerging Infectious diseases, Global travel & Health considerations, Nosocomial Infections.

SECTION-B

Nomenclature and classification of microbes of medical importance. Origin of the Normal Flora, Germfree and Gnotobiotic Life, Distribution and occurrence of Normal Flora of Skin, Eye, Respiratory Tract, Mouth, Intestinal Tract & Genitourinary Tract.

SECTION-C

Microbial adherence, Passive Penetration into body, Active Penetration into body, Events in Infection following penetration, Microbial virulence factors.

SECTION-D

Development of chemotherapy, General characteristics of antimicrobial drugs, Determining level of antimicrobial activity, Mechanism of action of antimicrobial agents, factors influencing the effectiveness of antimicrobial drugs, Antibacterial drugs viz sulfonamides, Quinolones, Penicillins, Cephalosporins, Tetracyclines, Erythromycin, Chloramphenicol, Drug Resistance, Antifungal and Antiviral drugs.

Reference 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 202 : INTRODUCTORY IMMUNOLOGY

Max. Marks	:	75
Theory	:	67 Marks
Internal Assessment	:	8 Marks
Time	:	3 Hours
(Three periods per week)		

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 the four sections and one is to be attempted. Each question should be sub-divided into 2-4 sub-parts.

Objectives :

The paper focuses on history of immunology, various kinds of defense systems operative against microbial diseases and latest techniques used in immunology.

SECTION-A

Introduction and history of Immunology, Non-specific Defense; Physical Barriers, Chemical Barriers, Phagocytosis, Inflammation, Fever, Types of Immunity, Active & Passive Immunity, Immunological memory, Primary & Secondary Lymphoid organs, Mucosa Associated Lymphoid tissue (MALT), Cutaneous Associated Lymphoid Tissue (CALT), Lymphocyte Traffic, Cells of immune system, Antigens; factors affecting Immunogenicity, epitopes, haptens.

SECTION-B

Humoral Immune Response, Antibodies/Immunoglobulins, Structure, function and type of antibodies, Antigenic-combining regions of antibodies, factors influencing antibody production, Genetic model, Multigene Organisation, generation of antibody diversity.

SECTION-C

Cell Mediated Immune System, Mechanism of CMI, Types of effector T Cells, Helper T-cells, Suppressor, T-cells, cytotoxic T cells, Killer T cells, Cytokines, Lymphokines, Colony Stimulating factors, Tumour Necrosis factor, Interferons, Accessory cells (Macrophages), the Complement System, Classical and Alternate pathway, HLA, Monoclonal antibody technology and its applications, Interactions between B and T lymphocytes.

SECTION-D

Antigen-Antibody Interactions : Precipitation reaction, Immuno-diffusion test, counter current Immuno electrophoresis, complement fixation tests, Widal test, Wasserman's test, Weil Felix reaction, Western Blotting, Types of vaccines.

Reference 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.
8. Cappuccino, J.G., Sherman N. (2008), *Microbiology, A Laboratory Manual*, Tara Art Printers (P.) Limited.

PRACTICALS

Max. Marks : 50
Practical : 45 Marks
Internal Assessment : 5 Marks
(One practical of 3 hrs. per week)

1. Stainings – Gram's, Alberts, ZNCF.
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.
6. Sterilization – Introduction to autoclave, hot air oven, filter sterilization.
7. Demonstration of Immune organs in dissected animal.
8. Demonstration of Immune cells in the smears prepared from Immune organs.
9. Complement fixation.
10. Antigen-antibody interactions :
 - Agglutination
 - Precipitation
 - Blood grouping
 - Immunodiffusion

Published by : Professor A.K. Bhandari, Registrar, Panjab University, Chandigarh.