

PANJAB UNIVERSITY CHANDIGARH- 160 014 (INDIA)

(Estded. under the Panjab University Act VII of 1947-enacted by the Govt. of India)



FACULTY OF SCIENCE

SYLLABI

FOR

Bachelor of Computer Applications

1st & 2nd Semester

FOR

EXAMINATIONS, 2014-2015

OUTLINES OF TESTS, SYLLABI AND COURSES OF READING FOR BACHELOR OF
COMPUTER APPLICATIONS FOR THE EXAMINATIONS OF 2014 – 2015

Scheme of Examination, 2014 - 2015

First Semester

Sr. No.	Subject	LT/Week	Theory Marks	Internal Assessment	Exam. Hours	Paper Code
1.	English (C) – A	6	90	10	3	BCA-101
2*	Panjabi/History & Culture of Punjab – A	6	90	10	3	BCA-102
3.	Mathematics in Computer Science - I	6	90	10	3	BCA-103
5.	Computing Software	6	90	10	3	BCA-104
6.	Computer Lab.: Based on BCA - 104	12	90	10	4	BCA-105

Second Semester

7.	English (C) – B	6	90	10	3	BCA-201
8.*	Panjabi/History & Culture of Punjab - B	6	90	10	3	BCA-202
9	Mathematics in Computer Science - II	6	90	10	3	BCA-203
10.	Computer Programming & Problem Solving Through “C”	6	90	10	3	BCA-204
11.	Computer Lab.: Based on BCA-204	12	90	10	4	BCA-205

* Panjabi /History & Culture of Punjab A& B

The Environment & Road Safety Education is a compulsory qualifying paper, which the students have to study in the B.Sc. 1st year(2nd Semester). If the student/s failed to qualify the paper during the 2nd Semester, he /she/they be allowed to appear/qualify the same in the 4th or 6th Semester/s.

FIRST SEMESTER

BCA -101: English (Compulsory)

M.Marks: 100

Theory: 90

Int.Assess:10

Book Prescribed: **Colours of Expression** by Harbhajan Singh published by
Publication Bureau, Panjab University, Chandigarh

Section A

1) Short Stories (1& 2)

One essay type question on summary/Character/Incident
(one out of two with internal choice)

15 marks

II) Prose (1 to 3)

Long essay type question on Summary/Theme
(one out of two with internal choice)

15 marks

III) Poetry (1 to 6) 15 marks

Summary (one out of two with internal choice)

5 marks

Short Questions (two out of three)

5 marks

Reference to the Context (one out of two with internal choice) **5 marks**

Section B

1) Word formation from Prose and Stories and their use
in sentences (5 out of 8)

10 marks

2) Use of textual words and idioms in sentences
(5 out of 8)

10 marks

3) Translation from Hindi/Punjabi to English
(a small Paragraph)

10 marks

OR

For Foreign Students (Paraphrase of Poetry Passage)

4) Official, Business and Letters to the Editors

15 marks

ਬੀ.ਸੀ.ਏ. ਭਾਗ ਪਹਿਲਾ (ਦਸੰਬਰ 2014) ਦੇ ਇਮਤਿਹਾਨ ਲਈ

ਸਮੈਸਟਰ ਪਹਿਲਾ

ਸਮਾਂ: 3 ਘੰਟੇ

ਕੁੱਲ ਅੰਕ: 50

ਬਿਊਰੀ: 45

ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ: 5

ਸਿਲੇਬਸ

1. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵੀਆਂ ਦੀਆਂ ਚੋਣਵੀਆਂ ਕਵਿਤਾਵਾਂ ਦਾ ਅਧਿਐਨ
2. ਚੋਣਵੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ ਦਾ ਅਧਿਐਨ
3. ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਲੇਖਕਾਂ ਦਾ ਸੰਖੇਪ ਜੀਵਨ ਤੇ ਰਚਨਾ / ਯੋਗਦਾਨ

ਕੋਰਸ

1. ਆਧੁਨਿਕ ਕਾਵਿ ਸੰਗਮ, ਸੰਪ: ਡਾ. ਐਸ.ਐਸ. ਨੂਰ, ਪ੍ਰਕਾਸ਼ਕ: ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਚੰਡੀਗੜ੍ਹ (ਪਹਿਲੇ ਛੇ ਕਵੀ : ਭਾਈ ਵੀਰ ਸਿੰਘ, ਧਨੀ ਰਾਮ ਚਾਤ੍ਰਕ, ਪੂਰਨ ਸਿੰਘ, ਮੋਹਨ ਸਿੰਘ, ਅੰਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ, ਹਰਿਭਜਨ ਸਿੰਘ)
2. ਕਥਾ ਬੋਧ (In Katha Bodh only 6 Chapters, 1, 3, 6, 7, 8, 9), ਪ੍ਰਕਾਸ਼ਕ: ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਚੰਡੀਗੜ੍ਹ।
3. ਲੇਖ ਰਚਨਾ
4. ਵਿਆਕਰਣ

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

- | | |
|---|--------|
| 1. ਆਧੁਨਿਕ ਕਾਵਿ ਸੰਗਮ ਪੁਸਤਕ ਵਿੱਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿੱਚੋਂ ਇੱਕ) | 5 ਅੰਕ |
| 2. ਦੋ ਕਵਿਤਾਵਾਂ ਦਾ ਸਾਰ ਅਤੇ ਕੇਂਦਰੀ ਭਾਵ (ਦੋ ਵਿੱਚੋਂ ਇੱਕ) | 5 ਅੰਕ |
| 3. ਕਥਾ ਬੋਧ ਵਿੱਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿੱਚੋਂ ਇੱਕ) | 5 ਅੰਕ |
| 4. ਇਕ ਕਹਾਣੀ ਦਾ ਸਾਰ (ਕਥਾ ਬੋਧ ਵਿੱਚੋਂ) | 5 ਅੰਕ |
| 5. ਇਕ ਲੇਖਕ ਦਾ ਜੀਵਨ, ਰਚਨਾ ਅਤੇ ਯੋਗਦਾਨ (ਕਵੀ ਤੇ ਕਹਾਣੀਕਾਰ - ਦੋ ਵਿੱਚੋਂ ਇਕ ਕਰਨਾ) | 10 ਅੰਕ |
| 6. ਲੇਖ : ਸਮਾਜਕ, ਸਭਿਆਚਾਰਕ ਅਤੇ ਆਮ ਵਾਕਫ਼ੀ ਨਾਲ ਸੰਬੰਧਤ (500 ਸ਼ਬਦਾਂ ਤੱਕ) | 10 ਅੰਕ |
| 7. ਸ਼ਬਦ ਸ਼ੁੱਧੀ ਤੇ ਵਾਕ ਸ਼ੁੱਧੀ | 5 ਅੰਕ |

ਪੰਜਵੇਂ ਸਵਾਲ ਲਈ ਦੋਹਾਂ ਪੁਸਤਕਾਂ ਵਿੱਚੋਂ ਹੇਠ ਲਿਖੇ ਲੇਖਕ ਨਿਰਧਾਰਤ ਹਨ:

ਭਾਈ ਵੀਰ ਸਿੰਘ, ਪ੍ਰੋ. ਮੋਹਨ ਸਿੰਘ, ਅੰਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ, ਸੰਤ ਸਿੰਘ ਸੇਖੋਂ, ਕੁਲਵੰਤ ਸਿੰਘ ਵਿਰਕ ਅਤੇ ਸੰਤੋਖ ਸਿੰਘ ਧੀਰ।

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

OR

HISTORY AND CULTURE OF PUNJAB

INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER in semester 1 AND 2)

(6 credit course)

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

Explanation:

1. Each essay type question would cover about one-third or one-half of a topic detailed in the syllabus.
2. The distribution of marks for the map question would be as under:
Map : 10 Marks

Explanatory Note : 08 Marks

In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 5 places on map of 2 marks each and write explanatory note on any four of 2 marks each.
3. The paper-setter would avoid repetition between different types of question within one question paper.

Paper 1:	Max. Marks	:	100
	Theory	:	90
	Internal Assessment	:	10
	Time	:	3 Hours

Objectives: To introduce the students to the history of Punjab region.

Pedagogy: Lectures, library work and discussions.

UNIT I

1. Harappan Civilization: extent and town planning; socio-economic life.
2. Vedic Age: socio-economic life; development of caste; position of women.
3. Religion: vedic religion; impact of Buddhism and Jainism on the region.

UNIT II

4. Society and Culture c. 1000 A.D.: Socio-economic life; religious life; education
5. Cultural Reorientation: main features of Bhakti; origin and development of Sufism
6. Society and Culture c. 1500A.D: socio-economic life under the Lodhis; religious beliefs and practices- Vainavism, Shaivism, Shaktism, Islam.

UNIT III

7. Sikhism: new ideology of Guru Nanak; evolution of Sikh community-guruship,manji,masand; new institutions-gurdwara, sangat-pangat.
8. Transformation of Sikhism: martyrdom of Guru Arjan; martyrdom of Guru Tegh Bahadur; impact.
9. Institution of Khalsa: new baptism; significance

UNIT IV

- 10.Changes in Society: social unrest; emergence of new rulers-rakhi, gurmata, dal khalsa.
- 11.Society and Culture under Maharaja Ranjit Singh: social mobility; painting and architecture; literature.
- 12.MAP: Major Historical Places: Harappa, Mohenjodaro, Sanghol, Ropar, Lahore, Amritsar, Kiratpur, Anandpur Sahib, Tarn Taran, Machhiwara, Goindwal, Khadur Sahib.

Suggested Readings:

1. Joshi, L.M (ed.) : History and Culture of the Punjab, Part-I, Publication Bureau, Punjabi University, Patiala, 1989 (3rd edn.)
2. Joshi, L.M and Singh, Fauja (ed.) : History and Culture of the Punjab, Vol. I, Punjabi University, Patiala, 1977
3. Prakash, Buddha : Glimpses of Ancient Punjab, P.U., Patiala, 1983
4. Thapar, Romila : A History of India, Vol. I, Penguin Books, 1966
5. Basham, A.L : The Wonder That was India, Rupa Books, Calcutta (18th rep.),1992
6. Sharma, B.N : Life in Northern India, MunshiRam Manohar Lal, Delhi, 1966
7. Singh,Kirpal :History and Culture os the Punjab, Part II(Medieval Period), Publication Bureau, Punjabi University, Patiala 1990(3rd edn.).
8. Singh, Fauja(ed.) :History of the Punjab, Vol.III, Punjabi University, Patiala 1972.

9. Grewal, J.S. :The Sikhs of the Punjab, the New Cambridge History of India, Orient Longman, Hyderabad,1990.
10. Singh, Khuwant :A History of the Sikhs, vol I: 1469-1839, oxford University Press,. Delhi, 1991.
11. Chopra, P.N.,Puri, B.N.:A Social, Cu.ltural and Economic History of India, Vol.II, And Das,M.N. Macmillan, delhi, 1974.
12. Hussain ,Yusuf : Glimpse of Medieval Indian Culture, Asia Publishing House, Bombay, 1973(rep.).
- 13.

Note: The following categories of the students shall be entitled to take option of History & Culture of Punjab in lieu of Punjabi as compulsory subject:

- A. That the students who have not studied Punjabi upto class 10th.
- B. Ward of / and Defence Personnel and Central Govt. Employee/Employees who are transferrable on all India basis.
- C. Foreigners

Paper Code : BCA - 103

Paper Title : Mathematics in Computer Science-I

Theory Marks : 90

Number of Lectures : 60
(45 minutes duration)

Objectives : To provide basic mathematical foundation required for various computer science courses.

- Note :
- (i) The syllabus of this paper has been divided into four sections.
 - (ii) Examiner will set total 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 entire Compulsory question.
 - (iv) All questions carry equal marks, unless specified.
 - (v) **The student can use only Non-programmable & Non-storage type of Calculator.**

SECTION-A

1. Fundamental Principles of Counting :

Concept of ${}^c(n, r)$. Binomial Theorem: Statement only for positive index, general and middle terms. Binomial Theorem for any index (Without Proof) applications of Binomial Theorem for approximation and properties of Binomial Coefficients.

SECTION-B

2. Trigonometry-I :

Trigonometric Ratios of allied angles, Trigonometric ratios of Compound angles or addition and subtraction formulae.

SECTION-C

3. Trigonometry-II :

Transformation Formulae, Trigonometric ratios of multiple angles.

SECTION-D

4. Limit and Continuity :

Rules for finding Limits, Infinite Limits, Continuity at a point, Rules of continuity, Continuity on an Interval.

References :

- 1. Schaum Series, 1982 : Theory & Problem of Essential Computer Mathematics, McGrawHill, New York.
- 2. Grimaldi, Ralph P., 2003 : Discrete and Combinational Mathematics, Pearson Education, Singapore.
- 3. Rao, G. Shanker, 1999 : Mathematics for Computer Science, Kalyani Publishers

Paper Code : BCA – 104
Paper Title : Computing Software
Theory Marks : 90

Number of Lectures : 60
(45 minutes duration)

Objective: The objective of this course is to familiarize students with Fundamentals of Information Technology and its applications.

- Note :
- (i) The syllabus of this paper has been divided into four sections.
 - (ii) Examiner will set total 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 entire Compulsory question.
 - (iv) All questions carry equal marks, unless specified.
 - (v) **The student can use only Non-programmable & Non-storage type of Calculator.**

SECTION – A

1. **Computer Appreciation:** Introduction, characteristics of computer; History of computers; classification of computers on size, architecture and chronology; Applications of computers; commonly used terms–Hardware, Software, Firmware. Types of software: System and Application software; Computer Architecture and organisation; Input, Process and Output; Representation of information: BIT, BYTE, Memory, Memory size; Units of measurement of storage; Input/Output devices; Secondary storage devices; Programming Languages: Generation of Languages; Translators - Interpreters, Compilers, Assemblers and their comparison. DOS : Versions of **DOS:** Booting sequence; Warm and Cold reboot; Concept of File and directory, Redirecting command input and output pipes, Wildcard characters, Types of DOS commands: Internal and External; Internal Commands: DIR, MD, CD, CLS, COPY, DATE, DEL, PATH, PROMPT, REN, RD, TIME, TYPE, VER, VOL; External Commands: XCOPY, ATTRIB, BACKUP, RESTORE, FIND, SYS, FORMAT, CHKDSK, DISKCOPY, LABEL, MOVE, TREE, DELTREE, DEFRAG, SCANDISK, UNDELETE. Batch Files: Introduction to simple batch files; Introduction to CONFIG.SYS and AUTOEXEC.BAT files.

(No. of Periods : 15)

SECTION-B

2. **Graphical User Interface:** Fundamentals of Windows, types of Windows, anatomy of windows, Icons, Recycle bin, Operations on Folders, Control panel.

Word Processing Package: Basics of Word Processing; Opening and Closing of documents; Text creation and Manipulation; Finding and replacing text, Printing of document, Formatting of text; Margin setting, Adding Borders and shading, Adding Headers and Footers, Setting up Multiple columns, Working with tables, Spell check, Grammar facility, Autotext, language setting and thesaurus; Mail merging.
Installation of Word Processing Software .

(No. of Periods : 15)

SECTION-C

3. Spreadsheet Package : Worksheet Basics, Data Entry in Cells : Entry of numbers, text and formulae, Moving data in a worksheet, Moving around in a worksheet, Selecting Data Range, Using the Interface (Toolbars, Menus), Editing Basics, Working with workbooks, Cell referencing; Formatting and Calculations : using Autofill, Working with Formulae, Efficient Data Display with Data formatting (number formatting, date formatting etc.), Working with Ranges, Worksheet Printing; Working with Graphs and Charts : Creating

Embedded Chart using charwizard, sizing and moving parts, updating charts, Changing chart types, Chart wizard, Adding Titles, Legends and Gridlines, Printing Charts; Database Management. Finding records with Data form, Adding/Deleting Records, Filtering Records in a worksheet; Functions and Macros: Worksheet Creating Macros, Recording Macros, Running Macros, Assigning Macros to Buttons, Defining Macros from Scratch. Multiple worksheets. *Installation of Spreadsheet software.*

Presentation Packages: Basics, General Features, Creating a presentation, Incorporation of Animation, Installation of Presentation software.

(No. of Periods : 15)

SECTION-D

4. Internet and WWW : Evolution of Internet, services provided on Internet, Access Methods, Future of Internet, Fundamentals of WWW, HTML : Introduction to HTML, Building blocks of HTML, lists, links, images, tables, frames, forms layers, HTML editor: *Frontpage, Dreamweaver.*

(No. of Periods : 15)

References :

1. Basandra, S.K., 2008 : Computers Today, Galgotia.
2. Sinha P.K. : Computer Fundamental, 6th Edition, BPB Publication
3. Mathur Rajiv, 1995 : DOS 6.2 Quick Reference, Galgotia.
4. Mathur Rajiv, 1996 : Learning Word 6 for Windows Step-by-Step, Galgotia.
5. Mathur Rajiv, 1996 : Learning Excel 5 for Windows Step-by-Step, Galgotia.
6. Kasser, Barbara, 1998 : Using the Internet, PHI, 4th ed., New Delhi.
7. Wall, David A. & Others, 1996 : Using the World Wide Web, PHI. 2nd ed. New Delhi.

Paper Code : BCA -105
Paper Title : Computer Lab.-1 Based on BCA - 104
Theory Marks : 90

SECOND SEMESTER

BCA-201 : English (Compulsory)

M.Marks: 100

Theory: 90

Int.Assess:10

Book Prescribed: **Colour of Expression** by Harbhajan Singh published by Publication Bureau, Panjab University, Chandigarh

Section A

1) **Short Stories** (3-5)

One essay type question on summary/Character/Incident
(one out of two with internal choice)

15 marks

2) **Prose** (4-5)

Long essay type question on Summary/Theme
(one out of two with internal choice)

15 marks

3) **Poetry** (7-11) **15marks**

Summary (one out of two with internal choice)

5 marks

Short Questions ((two out of three)

5 marks

Reference to the Context(one out of two with internal choice) **5 marks**

Section B

1) Paragraph Writing(Descriptive and Narrative)

10 marks

2). Use of textual words and idioms in sentences
(5 out of 8)

10 marks

3). Translation from Hindi/Punjabi to English
(isolated sentences)

10 marks

OR

For Foreign Students (Paraphrase of Poetry Passage)

4) Transformation of all types (15 out of 15)

15 marks

ਬੀ.ਸੀ.ਏ. ਭਾਗ ਪਹਿਲਾ (ਅਪ੍ਰੈਲ/ਮਈ 2015) ਦੇ ਇਮਤਿਹਾਨ ਲਈ

ਸਮੇਸਟਰ ਦੂਜਾ

ਸਮਾਂ: 3 ਘੰਟੇ

ਕੁੱਲ ਅੰਕ: 50

ਬਿਊਰੀ: 45

ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ: 5

ਸਿਲੇਬਸ

1. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵੀਆਂ ਦੀਆਂ ਚੋਣਵੀਆਂ ਕਵਿਤਾਵਾਂ ਦਾ ਅਧਿਐਨ
2. ਚੋਣਵੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ ਦਾ ਅਧਿਐਨ
3. ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਲੇਖਕਾਂ ਦਾ ਸੰਖੇਪ ਜੀਵਨ ਤੇ ਰਚਨਾ / ਯੋਗਦਾਨ
4. ਵਿਆਕਰਣ

ਕੋਰਸ

1. ਆਧੁਨਿਕ ਕਾਵਿ ਸੰਗਮ, ਸੰਪ: ਡਾ. ਐਸ.ਐਸ. ਨੂਰ, ਪ੍ਰਕਾਸ਼ਕ: ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਚੰਡੀਗੜ੍ਹ (ਪੰਜ ਕਵੀ : ਤਾਰਾ ਸਿੰਘ, ਐਸ.ਐਸ. ਮੀਸ਼ਾ, ਸ਼ਿਵ ਕੁਮਾਰ ਬਟਾਲਵੀ, ਪਾਸ਼, ਸੁਰਜੀਤ ਪਾਤਰ)
2. ਕਥਾ ਬੋਧ (In Katha Bodh only 6 Chapters, 10, 11, 12, 13, 14, 17), ਪ੍ਰਕਾਸ਼ਕ: ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਚੰਡੀਗੜ੍ਹ

ਯੂਨਿਟ ਅਤੇ ਬੀਮ

- | | |
|---|--------|
| 1. ਆਧੁਨਿਕ ਕਾਵਿ ਸੰਗਮ ਪੁਸਤਕ ਵਿੱਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿੱਚੋਂ ਇੱਕ) | 5 ਅੰਕ |
| 2. ਦੋ ਕਵਿਤਾਵਾਂ ਦਾ ਸਾਰ ਅਤੇ ਕੇਂਦਰੀ ਭਾਵ (ਦੋ ਵਿੱਚੋਂ ਇੱਕ) | 5 ਅੰਕ |
| 3. ਕਥਾ ਬੋਧ ਵਿੱਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿੱਚੋਂ ਇੱਕ) | 5 ਅੰਕ |
| 4. ਇਕ ਕਹਾਣੀ ਦਾ ਸਾਰ (ਕਥਾ ਬੋਧ ਵਿੱਚੋਂ) | 5 ਅੰਕ |
| 5. ਇਕ ਲੇਖਕ ਦਾ ਜੀਵਨ, ਰਚਨਾ ਅਤੇ ਯੋਗਦਾਨ (ਕਵੀ ਤੇ ਕਹਾਣੀਕਾਰ - ਦੋ ਵਿੱਚੋਂ ਇੱਕ ਕਰਨਾ) | 10 ਅੰਕ |
| 6. ਪੈਰਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਦੇਣੇ (ਸਿਰਲੇਖ, ਲਕੀਰੇ ਸ਼ਬਦਾਂ ਦੇ ਅਰਥ, ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ) | 10 ਅੰਕ |
| 7. ਮੁਹਾਵਰਿਆਂ ਦੀ ਅਰਥ ਦੱਸ ਕੇ ਵਾਕਾਂ ਵਿੱਚ ਵਰਤੋਂ (ਸੱਤ ਵਿੱਚੋਂ ਕੋਈ ਪੰਜ) | 5 ਅੰਕ |

ਪੰਜਵੇਂ ਸਵਾਲ ਲਈ ਦੋਹਾਂ ਪੁਸਤਕਾਂ ਵਿੱਚੋਂ ਹੇਠ ਲਿਖੇ ਲੇਖਕ ਨਿਰਧਾਰਤ ਹਨ:

ਸ਼ਿਵ ਕੁਮਾਰ ਬਟਾਲਵੀ, ਪਾਸ਼, ਸੁਰਜੀਤ ਪਾਤਰ, ਸੁਖਵੰਤ ਕੌਰ ਮਾਨ, ਮੋਹਨ ਭੰਡਾਰੀ, ਵਰਿਆਮ ਸਿੰਘ ਸੰਧੂ।

ਸੁਝਾਈਆਂ ਪੁਸਤਕਾਂ:

1. ਪੰਜਾਬੀ ਸੰਚਾਰ ਯੋਗਤਾ ਅਭਿਆਸ, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ।
2. ਕਾਲਜ ਪੰਜਾਬੀ ਵਿਆਕਰਣ, ਹਰਕੀਰਤ ਸਿੰਘ, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ।

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

OR
HISTORY AND CULTURE OF PUNJAB

INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER in semester 1 AND 2)

1. The syllabus has been divided into four Units.

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

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

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

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

Explanation:

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

Map	:	10 Marks
Explanatory Note	:	08 Marks

In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 5 places on map of 2 marks each and write explanatory note on any four of 2 marks each.

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

Paper 1:	Max. Marks	:	100
	Theory	:	90
	Internal Assessment	:	10
	Time	:	3 Hours

Objectives: To introduce the students to the history of Punjab region in Modern times.

Pedagogy: Lectures, library work and discussions.

UNIT I

1. Introduction of Colonial Rule: administrative changes; means of communication; western education.
2. Agrarian Development: Commercialization of agriculture; canalization and colonization.
3. Social Classes: agrarian groups; new middle classes

UNIT II

4. Early Socio Religious Reform: Christian Missionaries; Namdharis; Nirankaris.
5. Socio Religious Reform Movements: activities of Arya Samaj; Singh sabhas; Ahmadiyahs.
6. Development of Press & literature: growth of press; development in literature

UNIT III

7. Emergence Of Political Consciousness: Agrarian uprising 1907; Ghadar.
8. Gurudwara Reform Movement: Jallianwala Bagh; foundation of SGPC and Akali Dal; Morchas.
9. Struggle for Freedom: activities of revolutionaries - Babbar Akalis, Naujawan Bharat Sabha; participation in mass movements – non co-operation, civil disobedience, Quit India.

UNIT IV

10. Partition and its Aftermath: resettlement; rehabilitation
11. Social Concerns In Post Independence Punjab: language; immigration; socio-economic issues.
12. MAP: Major Historical places: Delhi, Kurukshetra, Jaito, Ferozepur, Ambala, Amritsar, Lahore, Ludhiana, Qadian, Jalandhar, Lyallpur, Montgomery.

Suggested Readings:

1. Singh, Kirpal :History and Culture of the Punjab, Part II(Medieval Period), Publication Bureau, Punjabi University, Patiala 1990(3rd edn.).
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, Khuwant :A History of the Sikhs, vol I: 1469-1839, oxford University Press,. Delhi, 1991.
5. Chopra, P.N.,Puri, B.N.:A Social, Cultural and Economic History of India, Vol.II, And Das,M.N. Macmillan, Delhi, 1974.

Paper Code : BCA - 203

Paper Title : Mathematics in Computer Science-II

Theory Marks : 90

Number of Lectures : 60
(45 minutes duration)

Objectives : To provide basic mathematical foundation required for various computer science courses.

Note : (i) The syllabus of this paper has been divided into four sections.

(ii) Examiner will set total 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 entire Compulsory question.

(iv) All questions carry equal marks, unless specified.

(v) **The student can use only Non-programmable & Non-storage type Calculator.**

SECTION-A

1. Derivatives :

The derivative of a function, Calculating derivatives from the definition, Differentiability on an interval, Differentiation Rules, Rates of Change, Derivatives of Trigonometric Functions, The Chain Rule, Derivative of Implicit, Rational and Exponential Functions, Rolle's theorem, Lagrange Mean Value Theorem.

SECTION-B

2. Integration-I :

Indefinite Integrals, Integration by substitution, Integration of Transcendental Functions: Inverse Functions, Natural Logarithm, The Exponential Function.

SECTION-C

3. Integration-II :

Integration by parts, Definite Integrals, Properties, Area under the curve.

SECTION-D

4. Matrix Operations :

Introduction and definition of matrix, types of matrices, Matrix addition, Subtraction and scalar multiplication, Matrix multiplication, Transpose of a matrix, adjoint of a matrix and inverse of a matrix, solution of system of linear equations, definition and properties of a determinant.

References :

1. Schaum Series, 1982 : Theory & Problem of Essential Computer Mathematics, McGrawHill, New York.
2. Grimaldi, Ralph P., 2003 : Discrete and Combinational Mathematics, Pearson Education, Singapore.
3. Rao, G. Shanker, 1999 : Mathematics for Computer Science, Kalyani Publishers, New Delhi.

Paper Code : **BCA - 204**
Paper Title : **Computer Programming & Problem Solving Through “C”**
Theory Marks : **90** **Number of Lectures : 60 (45 minutes duration)**

Objectives: The objective of this course is to make the student understand programming language concepts, mainly control structures, reading a set of data, stepwise refinement, function and arrays. After completion of this course, the student is expected to analyze the real life problem and write programs in ‘C’ language to solve problems. The main emphasis of the course is on problem solving aspect.

- Note: (i) The syllabus of this paper has been divided into four sections.
- (ii) Examiner will set total 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 entire Compulsory question.
- (iv) All questions carry equal marks, unless specified.
- (v) **The student can use only Non-programmable & Non-storage type Calculator.**

SECTION-A

1. **Algorithm and Programming Development:** Steps in development of a program, Flow Charts, Algorithm Development, Program Debugging, Compilation and Execution. Overview of C: History of C, Importance of C, Structure of a C Program. Elements of C: character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant. Input/output: Unformatted & formatted I/O function in C, Input functions: scanf(), getch(),getche(), getchar(), gets(); output functions: printf(), putchar(), putchar(), puts().

(No. of Periods : 15)

SECTION-B

2. **Operators & Expressions:** Arithmetic, relational, logical, bitwise, unary, assignment, conditional operators and special operators. Arithmetic expressions, evaluation of arithmetic expression, type casting and conversion, operator hierarchy & associativity. Decision making & branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, goto statement. Decision making & looping: For, while, and do-while loop, jumps in loops, break, continue. Functions: Introduction to Functions, Function Declaration, Function Categories, Standard Functions, Parameters Passing, Call – by value/reference, Recursion, Global and Local Variables, Storage classes.

(No. of Periods : 15)

SECTION-C

3. **Arrays:** Introduction to Arrays, Array Declaration, Single and Multidimensional Array, Memory Representation. Structure and Union: Declaration of structure, Accessing structure members, Structure Initialization, Arrays of structure, nested structures, Unions.

(No. of Periods : 15)

SECTION-D

4. **String:** Introduction of string, declaring and initializing string variables, reading and writing strings, string handling functions. Pointers: Introduction to Pointers, Address operator and pointers, Declaring and Initializing pointers, Assignment through pointers, Pointers and Arrays. Files: Introduction, Creating a data file, opening and closing a data file, processing a data file.

(No. of Periods : 15)

References :

1. Byron S. Gottfried, 1996 : Programming in C, McGraw Hills Publishers, New York
2. Salaria, R. S. : Test Your Skills in C, Khanna Book Publishing Ltd.,
3. *Salaria,R.S.* : *Problem Solving And Programming in C, Khanna*
4. Kanetkar Yashwant, 2010 : Let us Exploring C, BPB Publications, New Delhi.
5. Balaguruswami, C., 2008 : Programming with C Language, Tata McGraw Hill, New
6. Somashekara, M.T. , 2008 : Programming in C, Prentice Hall of India.

Paper Code : BCA - 205

Paper Title : Computer Lab.-2 Based on BCA - 204

Theory Marks : 90

ENVIRONMENT AND ROAD SAFETY EDUCATION (SEMESTER – II)

UNIT I (ENVIRONMENT)

Note: *The syllabus has 15 topics to be covered in 25 hour lectures in total, with 2 lectures in each topic from 2 to 11 and one each for the topics 1 and 12 to 15.*

1. **Environment Concept :**

Introduction, concept of biosphere—lithosphere, hydrosphere, atmosphere; Natural resources—their need and types; principles and scope of Ecology; concepts of ecosystem, population, community, biotic interactions, biomes, ecological succession.

2. **Atmosphere :**

Parts of atmosphere, components of air; pollution, pollutants, their sources, permissible limits, risks and possible control measures.

3. **Hydrosphere :**

Types of aquatic systems. Major sources (including ground water) and uses of water, problems of the hydrosphere, fresh water shortage; pollution and pollutants of water, permissible limits, risks and possible control measures.

4. **Lithosphere :**

Earth crust, Soil—a life support system, its texture, types, components, pollution and pollutants, reasons of soil erosion and possible control measures.

5. **Forests :**

Concept of forests and plantations, types of vegetation and forests, factors governing vegetation, role of trees and forests in environment, various forestry programmes of the Govt. of India, Urban Forests, Chipko Andolan.

6. **Conservation of Environment :**

The concepts of conservation and sustainable development, why to conserve, aims and objectives of conservation, policies of conservation; conservation of life support systems—soil, water, air, wildlife, forests.

7. **Management of Solid Waste :**

Merits and demerits of different ways of solid waste management—open, dumping, landfill, incineration, resource reduction, recycling and reuse, vermicomposting and vermiculture, organic farming.

8. **Indoor Environment :**

Pollutants and contaminants of the in-house environment; problems of the environment linked to urban and rural lifestyles; possible adulterants of the food; uses and harms of plastics and polythene; hazardous chemicals, solvents and cosmetics.

9. **Global Environmental Issues :**

Global concern, creation of UNEP; Conventions on climate change, Convention on biodiversity; Stratospheric ozone depletion, dangers associated and possible solutions.

10. **Indian Laws on Environment:**

Indian laws pertaining to Environmental protection : Environment (Protection) Act, 1986; General information about Laws relating to control of air, water and noise pollution. What to do to seek redressal.

11. **Biodiversity:**
What is biodiversity, levels and types of biodiversity, importance of biodiversity, causes of its loss, how to check its loss; Hotspot zones of the world and India, Biodiversity Act, 2002.
12. **Noise and Microbial Pollution :**
Pollution due to noise and microbes and their effects.
13. **Human Population and Environment :**
Population growth and family welfare programme, Human Health, HIV/AIDS, Human rights.
14. **Social Issues :**
Environmental Ethics : Issues and possible solutions, problems related to lifestyle, sustainable development; Consumerisms and waste generation.
15. **Local Environmental Issues :**
Environmental problems in rural and urban areas, Problem of Congress grass & other weeds, problems arising from the use of pesticides and weedicides, smoking etc.

Practicals :

Depending on the available facility in the college, a visit to Vermicomposting units or any other such non-polluting eco-friendly site or planting/caring of vegetation/trees could be taken.

Examination Pattern :

A qualifying paper of 50 marks comprising of fifty multiple choice questions (with one correct and three incorrect alternatives and no deduction for wrong answer or unattempted question), and of 1 hour duration.

The students have to obtain 33% marks to qualify the paper. The marks are not added/included in the final mark sheet.

UNIT II (ROAD SAFETY)

1. Concept and Significance of Road Safety.
2. Role of Traffic Police in Road Safety.
3. Traffic Engineering – Concept & Significance.
4. Traffic Rules & Traffic Signs.
5. How to obtain Driving License.
6. Traffic Offences, Penalties and Procedures.
7. Common Driving mistakes.
8. Significance of First-aid in Road Safety.
9. Role of Civil Society in Road Safety.
10. Traffic Police-Public Relationship.

Note : Examination Pattern :

- The Environment and Road Safety paper is 70 marks.
- Seventy multiple choice questions (with one correct and three incorrect alternatives and no deduction for wrong or un-attempted questions).
- The paper shall have two units: **Unit I (Environment) and Unit II (Road Safety).**
- Unit II shall comprise of 20 questions with minimum of 1 question from each topics 1 to 10.

- The entire syllabus of Unit II is to be covered in 10 hours.
- All the questions are to be attempted.
- Qualifying Marks 33 per cent i.e. 23 marks out of 70.
- Duration of examination: 90 minutes.
- The paper setter is requested to set the questions strictly according to the syllabus.

Suggested Readings

1. The Motor Vehicle Act, 1988 (2010), Universal Law Publishing Co. Pvt. Ltd., New Delhi.
2. Road Safety Signage and Signs (2011), Ministry of Road Transport and Highways, Government of India.

Websites:

- (a) www.chandigarhpolicenic.in
- (b) www.punjabpolice.gov.in
- (c) www.haryanapolice.gov.in
- (d) www.hppolice.nic.in