

(P.G. DEPARTMENT OF COMPUTER SCIENCE)

**OUTLINES OF TESTS,
SYLLABI AND COURSES OF READING**

FOR

BACHELOR OF COMPUTER APPLICATIONS (B.C.A)

(SEMESTER SYSTEM)

FIRST YEAR (Semester I & II)

(2021-22, 2022-23 and 2023-24 Sessions)

FACULTY OF COMPUTING SCIENCES



SRI GURU TEG BAHADUR KHALSA COLLEGE

Sri Anandpur Sahib

An Autonomous College

Affiliated to Punjabi University, Patiala

APPROVED

Board of Studies Meeting held on 19th June 2021

**SYLLABI, OUTLINES OF PAPERS AND TESTS FOR
BACHELOR OF COMPUTER APPLICATIONS (B.C.A)**

BCA-PART I (SEMESTER-I)

For Session 2021-22, 2022-23 and 2023-24

PAPER CODE	NAME OF SUBJECT	HOURS PER WEEK				EXAMINATION SCHEME MARKS				
		L	T	P	TOTAL	Internal	External	Practical	Total	Credits
BCA-111	English (Communication Skills)	4	--	--	4	30	70	--	100	4
BSP-101 A,B	Punjabi Compulsory OR Punjabi Mudhla Gyan	4	--	--	4	30	70	--	100	4
BCA-113	Fundamentals of Information Technology	4	--	--	4	30	70	--	100	4
BCA-114	Web Designing Using HTML	4	--	--	4	30	70	--	100	4
BCA-115	GE-I*	5	1	--	6	30	70	--	100	6
BCA-116	Software Lab-I (Based on BCA-113)	--	--	4	4	30	--	70	100	2
BCA-117	Software Lab-II (Based on BCA-114)	--	--	4	4	30	--	70	100	2
BCA-118 (SAE 1.1)	Drug Abuse: Problem, Management & Preventions (Qualifying)	--	--	--	--	15	35	--	50	--
TOTAL		21	1	8	30	195	315	140	650	26

GE-I*: Any one of the following papers may be opted:

BCA-115 (E1)	e-Commerce
BCA-115 (E2)	Principles & Practices of Management

1. The breakup of marks for the practical will be as under:

- | | |
|---|----------|
| i. Internal Assessment | 30 Marks |
| ii. Viva Voce (External Evaluation) | 40 Marks |
| iii. Practical Performance & write up (External Evaluation) | 30 Marks |

2. The breakup of marks for the internal assessment for theory Subjects will be as under:

- | | |
|------------------------|----------|
| Mid semester test – I | 10 Marks |
| Mid semester test – II | 10 Marks |
| Attendance | 5 Marks |
| Assignment | 5 Marks |

***Only those students who have not studied Punjabi up to matriculation can opt Mudhla Gyan. Other students will study Punjabi Compulsory.**

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**SYLLABI, OUTLINES OF PAPERS AND TESTS FOR
BACHELOR OF COMPUTER APPLICATIONS (B.C.A)**

BCA-PART I (SEMESTER-II)

For Session 2021-22, 2022-23 and 2023-24

PAPER CODE	NAME OF SUBJECT	HOURS PER WEEK				EXAMINATION SCHEME MARKS				
		L	T	P	TOTAL	Internal	External	Practical	Total	Credits
BCA-121	English (Communication Skills)	4	-	--	4	15	35	--	50	4
BSP-201A,B	Punjabi Compulsory OR Punjabi Mudhla Gyan	4	-	--	4	30	70	--	100	4
BCA-123	Programming Fundamentals Using C	4	-	--	4	30	70	--	100	4
BCA-124	Operating Systems	4	-	--	4	30	70	--	100	4
BCA-125	GE-II**	5	1	--	6	30	70	--	100	6
BCA-126	Software Lab-III (Based on BCA-123)	--	-	4	4	30	--	70	100	2
BCA-127	Software Lab-IV (Based on BCA-124)	--	-	4	4	30	--	70	100	2
BCA-128 (SAE 1.2)	Environmental and Road Safety Awareness	4	-	--	4	30	70	--	100	4
TOTAL		25	1	8	34	225	385	140	750	30

GE-II:** Students can opt any one of the following papers:

BCA-125 (E1)	Computer System Architecture
BCA-125 (E2)	System Analysis & Design

1. The breakup of marks for the practical will be as under:

- | | |
|---|----------|
| i. Internal Assessment | 30 Marks |
| ii. Viva Voce (External Evaluation) | 40 Marks |
| iii. Practical Performance & write up (External Evaluation) | 30 Marks |

3. The breakup of marks for the internal assessment for theory Subjects will be as under:

- | | |
|------------------------|----------|
| Mid semester test – I | 10 Marks |
| Mid semester test – II | 10 Marks |
| Attendance | 5 Marks |
| Assignment | 5 Marks |

***Only those students who have not studied Punjabi up to matriculation can opt Mudhla Gyan. Other students will study Punjabi Compulsory.**

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Session 2021-22, 2022-23 & 2023-24

BCA

Semester-I

Code: BCA-111

English (Communication Skills)

Time Allowed: 3 Hours

Periods per week: 4

Credits: 04

Teaching Hours: 60

Max. Marks: 100

Written Examination: 70

Internal Assessment: 30

Pass Percentage: 35%

Instructions for the Paper Setter: The question paper will carry 70 marks and will be of three hours duration. The paper will consist of three units. Following shall be the unit wise marks division:

- Unit-I – 18 Marks
- Unit-II – 22 Marks
- Unit-III – 30 Marks

Note: - We humbly request that the paper setter consults the testing pattern given in testing section.

Instructions for the candidates: Candidates are required to attempt all the questions as per the instructions given in the testing section.

Course Objective:

The chief objective of the paper is to sharpen the literary and grammatical skills of the students. Selected short stories have been incorporated in the syllabus to give impetus to creativity and imagination of the students. The syllabi will also help the students to understand the nuances of English language & usage.

Pedagogy: Primarily the chalk and duster method will be used to teach this course. To evoke the interest of the students in the curriculum due emphasis will be laid on assignments, homework and periodic tests.

Unit-I

Text Prescribed: *Let's Go Home and Other Stories*

The following stories are to be studied:

1. *A shadow*
2. *The Meeting Pool*
3. *Green Parrots in a Cage*
4. *The Portrait of a Lady*
5. *Let's Go Home*
6. *The Terrorist*
7. *The Death of a Hero*
8. *The Cow of the Barricades*

Unit-II

Text Prescribed: *The Students' Companion* by Wilfred D. Best, Rupa & Co.

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The following contents of this book are to be studied:

1. One word substitution (Professions or Trades)
2. Correction of frequently misspelt words
3. Antonyms and Synonyms

Unit-III

Text Prescribed: *Living English Structure* by W. Stannard Allen

Grammar& Composition:

1. Voice
2. Narration
3. Composition: Précis Writing (Unseen Passage)

Testing

Unit-I

1. The examiner shall set one essay type question with internal alternative on theme, incident or character from *Let's Go Home and Other Stories* prescribed in unit-I of the syllabus. The candidate is required to write the answer in about 250 words. 8 marks
2. The examiner shall set seven short-answer type questions from *Let's Go Home and Other Stories* prescribed in unit-I. The candidate is required to attempt any five out of the given seven. Each question shall carry two marks. 10 marks

Unit-II

3. The examiner shall set ten sentences related to different Professions or Trades. The candidate shall give one word substitute for each sentence. The candidate is required to attempt any seven out of given ten. The examiner shall set these sentences from the book *The Students' Companion* prescribed in unit-II of the syllabus. Each answer shall carry one mark. 7 marks
4. The examiner shall set seven misspelt words for correction from the prescribed book *The Students' Companion*. The candidate is required to attempt any five. Each word shall carry one mark. 5 marks
5. This question will be pertaining to Antonyms and Synonyms. The examiner shall set seven words for antonyms and seven for synonyms from the prescribed book *The Students' Companion*. The candidate is required to attempt any five from each. Each word shall carry one mark. 5+5=10 marks

Unit-III

6. The examiner shall set 12 sentences for Change of Voice from the book *Living English Structure* prescribed in unit-III. The candidate is required to attempt any 10 sentences out of the given 12 sentences. Each correct answer shall carry one mark. 10 marks
7. The examiner shall set 12 sentences for Change of Narration from the book *Living English Structure* prescribed in unit-III. The candidate is required to attempt any 10 sentences out of the given 12 sentences. Each correct answer shall carry one mark. 10 marks
8. The examiner shall set an unseen passage for précis writing. The passage shall be of at least 150 words and not exceeding 220 words. The candidate is required to make a précis of the given passage along with a suitable/relevant title. The précis shall be one third of the given passage.

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10 marks

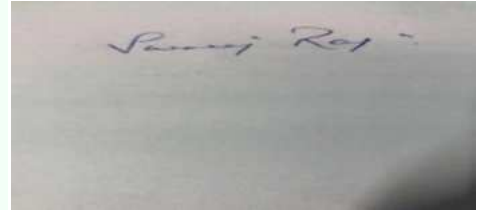
Course Learning Outcomes:

1. Students will learn the nuances of English language
2. The course content is expected to improve their communicative skills and command over language
3. Students will acquire fundamental knowledge of language and literature.

Suggested Readings:

Oxford Practice Grammar by John Eastwood (Ed. 2014).

Current English Grammar and Usage with Composition by R.P. Sinha, Oxford University Press.



Dr. Gurpreet Kaur

Dr. Ajay Verma

Dr. Swaraj Raj

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ਬੀ.ਸੀ.ਏ ਭਾਗ ਪਹਿਲਾ, ਸਮੈਸਟਰ ਪਹਿਲਾ
ਪੇਪਰ-ਪੰਜਾਬੀ ਲਾਜ਼ਮੀ, ਪੇਪਰ ਕੋਡ: BSP-101A
2020-21, 2021-22 ਸੈਸ਼ਨ ਲਈ

ਕੁੱਲ ਅੰਕ : 100

ਬਾਹਰੀ ਪਰੀਖਿਆ: 70 ਅੰਕ

ਅੰਦਰੂਨੀ ਮੁਲਾਂਕਣ : 30 ਅੰਕ

ਸਮਾਂ: 3 ਘੰਟੇ

ਵਿਸ਼ੇ ਵਿਚੋਂ ਪਾਸ ਅੰਕ : 35

ਬਾਹਰੀ ਪਰੀਖਿਆ ਵਿਚੋਂ ਪਾਸ ਅੰਕ: 25

ਅੰਦਰੂਨੀ ਮੁਲਾਂਕਣ ਵਿਚੋਂ ਪਾਸ ਅੰਕ: 10

ਕ੍ਰੈਡਿਟ-04, ਕੁੱਲ ਲੈਕਚਰ: 60

ਪਾਠਕ੍ਰਮ ਦਾ ਉਦੇਸ਼:

1. ਵਿਦਿਆਰਥੀਆਂ ਵਿਚ ਸਾਹਿਤ ਪੜ੍ਹਨ ਦੀ ਰੁਚੀ ਪੈਦਾ ਕਰਨਾ।
2. ਮਾਤ ਭਾਸ਼ਾ ਵਿੱਚ ਉਚੇਰੀ ਸਿੱਖਿਆ ਗ੍ਰਹਿਣ ਕਰਨ ਦੀ ਜਾਗ ਲਾਉਣਾ।
3. ਵਿਆਕਰਨਕ ਪੱਖਾਂ ਨਾਲ ਰਾਬਤਾ ਕਾਇਮ ਕਰਵਾਉਣਾ।
4. ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਵਾਤਾਵਰਣ ਅਤੇ ਸਭਿਆਚਾਰਕ ਵਿਸ਼ਿਆਂ / ਸਮੱਸਿਆਵਾਂ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣਾ।

ਪੇਪਰ ਸੈੱਟਰ ਅਤੇ ਵਿਦਿਆਰਥੀਆਂ ਲਈ ਹਦਾਇਤਾਂ

1. ਭਾਗ-ਓ: ਵਿਚੋਂ ਨਿਬੰਧ ਦਾ ਵਿਸ਼ਾ-ਵਸਤੂ ਜਾਂ ਸਾਰ (ਤਿੰਨ ਵਿਚੋਂ ਇੱਕ) 10 ਅੰਕ
2. ਭਾਗ-ਓ: ਵਿਚੋਂ ਪੁਸਤਕ ਵਿਚਲੇ ਵਿਚਾਰਾਂ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ (ਪੰਜ ਵਿਚੋਂ ਤਿੰਨ) $4+4+4=12$ ਅੰਕ
3. ਭਾਗ-ਅ: 1 ਵਿਚੋਂ ਨਿਬੰਧ ਰਚਨਾ (ਤਿੰਨ ਵਿਚੋਂ ਇੱਕ) 08 ਅੰਕ
4. ਭਾਗ-ਅ: 2 ਵਿਚੋਂ ਵਿਆਕਰਨ ਨਾਲ ਸੰਬੰਧਿਤ ਵਰਣਾਤਮਕ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇੱਕ) 10 ਅੰਕ
5. ਭਾਗ-ੲ ਵਿਚ ਨਿਬੰਧ ਅਤੇ ਵਿਆਕਰਨ ਵਿਚੋਂ ਕੁੱਲ $15(8+7)$ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਲਾਜ਼ਮੀ ਪ੍ਰਸ਼ਨ। ਵਿਦਿਆਰਥੀਆਂ ਲਈ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਲਾਜ਼ਮੀ ਹਨ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ 2 ਅੰਕਾਂ ਦਾ ਹੋਵੇਗਾ।
 $15 \times 2 = 30$ ਅੰਕ

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪ੍ਰਸ਼ਨ-ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ

ਭਾਗ-ਓ

ਓ -ਮੇਰਾ ਜੀਵਨ ਅਨੁਭਵ (ਵਾਰਤਕ -ਸੰਗ੍ਰਹਿ), ਮੁੱਖ ਸੰਪਾਦਕ ਡਾ. ਜਸਵੀਰ ਸਿੰਘ, ਸੰਪਾ. ਡਾ. ਅਵਤਾਰ ਸਿੰਘ,
ਡਾ. ਗੁਰਪ੍ਰੀਤ ਕੌਰ, ਪ੍ਰੋ. ਸੁਖਵਿੰਦਰ ਸਿੰਘ, ਸ੍ਰੀ ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਖਾਲਸਾ ਕਾਲਜ, ਸ੍ਰੀ ਅਨੰਦਪੁਰ ਸਾਹਿਬ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ

ਭਾਗ-ਅ

ਅ-1: ਸਮਾਜਿਕ ਅਤੇ ਵਾਤਾਵਰਨ ਵਿਸ਼ਿਆਂ ਨਾਲ ਸੰਬੰਧਿਤ ਨਿਬੰਧ ਰਚਨਾ

ਅ-2: ਵਿਆਕਰਨ

- (i) ਸਵਰ: ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਣ
- (ii) ਵਿਅੰਜਨ: ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਣ
- (iii) ਉਚਾਰਨ ਅੰਗ
- (iv) ਨਾਂਵ ਅਤੇ ਇਸਦਾ ਰੂਪਾਂਤਰਣ
- (v) ਪੜਨਾਂਵ ਅਤੇ ਇਸਦਾ ਰੂਪਾਂਤਰਣ
- (vi) ਕਿਰਿਆ ਅਤੇ ਇਸਦਾ ਰੂਪਾਂਤਰਣ

ਭਾਗ-ੲ ਨਿਬੰਧ ਅਤੇ ਵਿਆਕਰਨ ਵਾਲੇ ਭਾਗ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ

ਸਹਾਇਕ ਪੁਸਤਕਾਂ

1. ਬੂਟਾ ਸਿੰਘ ਬਰਾੜ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਸ਼੍ਰੋਤ ਤੇ ਸਰੂਪ, ਵਾਰਿਸ਼ ਸ਼ਾਹ ਫਾਂਊਡੇਸ਼ਨ ਅੰਮ੍ਰਿਤਸਰ, 2012
2. ਬੂਟਾ ਸਿੰਘ ਬਰਾੜ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਸਿਧਾਂਤ ਅਤੇ ਵਿਹਾਰ, ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ, ਲੁਧਿਆਣਾ, 2008
3. ਬਲਦੇਵ ਸਿੰਘ ਚੀਮਾ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਤੇ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਤਕਨੀਕੀ ਸ਼ਬਦਾਵਲੀ ਦਾ ਵਿਸ਼ਾ ਕੋਸ਼, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2009
4. ਡਾ. ਜੋਗਿੰਦਰ ਸਿੰਘ ਪੁਆਰ ਅਤੇ ਹੋਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਵਿਆਕਰਨਕ ਭਾਗ I, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ, ਜਲੰਧਰ, 1991
5. ਡਾ. ਜੋਗਿੰਦਰ ਸਿੰਘ ਪੁਆਰ ਅਤੇ ਹੋਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਵਿਆਕਰਨਕ ਭਾਗ II, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ, ਜਲੰਧਰ, 1991

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- 6.ਗਿਆਨੀ ਲਾਲ ਸਿੰਘ ਤੇ ਹਰਕੀਰਤ ਸਿੰਘ ,ਕਾਲਜ ਪੰਜਾਬੀ ਵਿਆਕਰਣ ,ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀ.ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ,ਚੰਡੀਗੜ੍ਹ
- 7.ਸੰਤ ਸਿੰਘ ਸੇਖੋਂ,ਸਾਹਿਤਆਰਥ,ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ,ਲੁਧਿਆਣਾ
- 8.ਬਲਵੀਰ ਸਿੰਘ ਦਿਲ, ਪੰਜਾਬੀ ਨਿਬੰਧ :ਸਰੂਪ, ਸਿਧਾਂਤ ਅਤੇ ਵਿਕਾਸ,ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ,ਯੂਨੀਵਰਸਿਟੀ,ਪਟਿਆਲਾ।
- 9.ਖੋਜ ਪੱਤ੍ਰਿਕਾ, ਨਿਬੰਧ ਅੰਕ-29,ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ,ਯੂਨੀਵਰਸਿਟੀ,ਪਟਿਆਲਾ।

ਬੀ.ਸੀ.ਏ.ਭਾਗ ਪਹਿਲਾ(ਸਮੈਸਟਰ-ਪਹਿਲਾ)
ਪੇਪਰ-ਪੰਜਾਬੀ ਮੁੱਢਲਾ ਗਿਆਨ,ਪੇਪਰ ਕੋਡ:BSP-101B
2020-21,2021-22 ਸੈਸ਼ਨ ਲਈ

ਕੁੱਲ ਅੰਕ :100

ਬਾਹਰੀ ਪਰੀਖਿਆ:70 ਅੰਕ

ਅੰਦਰੂਨੀ ਮੁਲਾਂਕਣ :30 ਅੰਕ

ਸਮਾਂ:3 ਘੰਟੇ

ਵਿਸ਼ੇ ਵਿਚੋਂ ਪਾਸ ਹੋਣ ਲਈ ਅੰਕ : 35

ਬਾਹਰੀ ਪਰੀਖਿਆ ਵਿਚੋਂ ਪਾਸ ਅੰਕ: 25

ਅੰਦਰੂਨੀ ਮੁਲਾਂਕਣ ਵਿਚੋਂ ਪਾਸ ਅੰਕ:10

ਕ੍ਰੈਡਿਟ-04, ਕੁੱਲ ਲੈਕਚਰ:60

ਪਾਠਕ੍ਰਮ ਦਾ ਉਦੇਸ਼:

- 1.ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਾਹਿਤ ਪੜ੍ਹਨ ਲਈ ਪ੍ਰੇਰਿਤ ਕਰਨਾ।
- 2.ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਜਾਣਕਾਰੀ ਦੇਣਾ।
- 3.ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਪੜ੍ਹਨਾ ਅਤੇ ਲਿਖਣਾ ਸਿਖਾਉਣਾ।

ਪੇਪਰ ਸੈਂਟਰ ਅਤੇ ਵਿਦਿਆਰਥੀਆਂ ਲਈ ਹਦਾਇਤਾਂ:

- 1.ਭਾਗ-ੳ: ਵਿਚੋਂ ਵੱਡੇ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇੱਕ)10 ਅੰਕ
- 2.ਭਾਗ-ੳ ਵਿਚੋਂ ਛੋਟੇ ਪ੍ਰਸ਼ਨ (ਛੇ ਵਿਚੋਂ ਤਿੰਨ) 5+5+5=15 ਅੰਕ
- 3.ਭਾਗ-ਅ ਵਿਚੋਂ ਵੱਡੇ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇੱਕ)10 ਅੰਕ
- 4.ਭਾਗ-ਅ ਵਿਚੋਂ ਛੋਟੇ ਪ੍ਰਸ਼ਨ (ਛੇ ਵਿਚੋਂ ਤਿੰਨ) 5+5+5=15 ਅੰਕ
- 5.ਭਾਗ-ੲ ਵਿਚ ਭਾਗ ੳ ਅਤੇ ਅ ਵਿਚੋਂ ਕੁੱਲ 15 ਆਬਜੈਕਟਿਵ ਪ੍ਰਸ਼ਨ।ਵਿਦਿਆਰਥੀਆਂ ਲਈ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਲਾਜ਼ਮੀ ਹਨ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ 2 ਅੰਕਾਂ ਦਾ ਹੋਵੇਗਾ। (15X2=30 ਅੰਕ)

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪ੍ਰਸ਼ਨ-ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ

ਭਾਗ-ੳ

- ੳ-1.ਪੈਂਤੀ ਅੱਖਰੀ ਅਤੇ ਭੁਲਾਵੇਂ ਅੱਖਰ
- 2.ਦੋ ਅੱਖਰਾਂ ਵਾਲੇ,ਤਿੰਨ ਅੱਖਰਾਂ ਵਾਲੇ ਅਤੇ ਚਾਰ ਅੱਖਰਾਂ ਵਾਲੇ ਪੰਜ-ਪੰਜ ਸ਼ਬਦ
- 3.ਲਗਾਮਾਤਰਾਵਾਂ ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਪੰਜ-ਪੰਜ ਸ਼ਬਦ
- 4.ਲਗਾਖਰਾਂ ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਪੰਜ-ਪੰਜ ਸ਼ਬਦ

ਭਾਗ-ਅ

- ਅ-1. ਇੱਕ ਤੋਂ ਪੰਜਾਹ ਤੱਕ ਗਿਣਤੀ
2. ਹਫ਼ਤੇ ਦੇ ਦਿਨਾਂ ਦੇ ਨਾਂ
- 3.ਪੰਜ ਫਲਾਂ ਅਤੇ ਸਬਜ਼ੀਆਂ ਦੇ ਨਾਂ

4. ਪੰਜ ਘਰੇਲੂ ਵਸਤਾਂ ਅਤੇ ਆਵਾਜਾਈ ਦੇ ਸਾਧਨਾਂ ਦੇ ਨਾਂ
5. ਪੰਜ ਰਿਸ਼ਤਿਆਂ ਦੇ ਨਾਂ
6. ਪੰਜ ਪਸ਼ੂ ਪੰਛੀਆਂ ਦੇ ਨਾਂ

ਭਾਗ-ੲ

ਭਾਗ ੳ ਅਤੇ ਅ ਵਿਚੋਂ ਅਬਜੈਕਟਿਵ ਪ੍ਰਸ਼ਨ

ਨੋਟ:ਵਿਦਿਆਰਥੀ ਪਹਿਲੀ ਵਾਰ ਗੁਰਮੁਖੀ ਸਿੱਖ ਰਹੇ ਹਨ।ਇਸ ਲਈ ਵਿਦਿਆਰਥੀਆਂ ਦੇ ਪੱਧਰ ਨੂੰ ਧਿਆਨ ਵਿੱਚ ਰੱਖਦੇ ਹੋਏ ਸਰਲ ਅਤੇ ਸਪੱਸ਼ਟ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣ।

ਸਹਾਇਕ ਪਾਠ ਸਮੱਗਰੀ

- 1.ਸਤਿਨਾਮ ਸਿੰਘ ਸੰਧੂ,ਆਓ ਪੰਜਾਬੀ ਸਿੱਖੀਏ,ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ,ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ,ਪਟਿਆਲਾ,2009

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2. ਸਤਿਨਾਮ ਸਿੰਘ ਸੰਧੂ, ਗੁਰਮੁਖੀ ਸਿੱਖੋ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2011
3. ਸੀਤਾ ਰਾਮ ਬਾਹਰੀ, ਪੰਜਾਬੀ ਸਿੱਖੀਏ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2002
4. ਪੰਜਾਬੀ ਗਿਆਨ ਸੀ.ਡੀ. (ਕੰਪਿਊਟਰ ਐਪਲੀਕੇਸ਼ਨ ਟੂ-ਲਰਨ ਐਂਡ ਟੀਚ ਪੰਜਾਬੀ), ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
5. ਚਰਨ ਪੁਆਧੀ, ਆਓ ਪੰਜਾਬੀ ਸਿੱਖੀਏ, ਸੰਗਮ ਪਬਲੀਕੇਸ਼ਨ, ਪਟਿਆਲਾ

BCA 113: FUNDAMENTALS OF INFORMATION TECHNOLOGY

4Credits: (4L)

Time: 3hours

Maximum Marks: 100

Pass Marks: 35%

Internal Assessment: 30 marks

Number of Lectures: 60

External: 70 marks

INSTRUCTIONS FOR THE PAPER SETTER

The question paper will consist of three sections A, B & C. Section A and B will have four questions each from respective unit of the syllabus carrying 10.5 marks for each question. Section C will have 5-10 short answer type questions, carrying 28 marks in total, which will cover the entire syllabus uniformly.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt two questions each from the Sections A & B of the question paper and the entire Section-C.

SECTION-A

Computer Fundamentals: Block diagram of Computer, Characteristics and Types of Computers.

Input/output Devices: Keyboard & Mouse, Trackball, Joystick, Scanner (OCR, OMR, MICR) Displays-CRT, LCD, LED, Plotter, Printer-Impact & Non-Impact Printers, Speakers

Memories: Types, Units of Memory, Primary Storage-RAM, ROM, Cache, Virtual Memory. Secondary Storage -Drives – CD, DVD(R/W), Hard Disk, Pen Drive.

Languages: Machine, Assembly, High-Level, Translators (Assembler, Compiler & Interpreter), Algorithm & Flow Charts, Hardware, Software, Application Software & System Software.

Number System: Non-Positional & Positional Number Systems, Concept of Bit and Byte, binary, decimal, hexadecimal, and octal systems, Base Conversion from one system to another system, Binary Arithmetic: Addition, Subtraction and Multiplication, 1's Complement, 2's Complement, Subtraction using 1's Complement & 2's Complement.

Computer Codes: Weighted & Non-Weighted Codes, BCD, EBCDIC, ASCII, Unicode.

SECTION-B

Applications of IT: IT in Business and Industry, IT in Education and Training, IT in Science and Technology, IT and Entertainment.

Advanced Trends in IT: Mobile Internet, GPS, 3G, 4G, Wi-Fi, Bluetooth, Cloud Technology, Virtual LAN Technology, Firewall, e-Commerce, M-Commerce, Nanotechnology, Virtual Reality, BPO, KPO, Online Shopping, Social Media: YouTube, Facebook, LinkedIn, Twitter, Google+.

MS-WORD: Introduction Basic Editing, Formatting, Templates, Working with Graphics and Pictures, Tables, Desktop Publishing, Mail Merge, Proofing, Printing, and Publishing, Comparing, Merging, and Protecting Documents.

MS-POWERPOINT: Introduction, Using Themes and Layouts, Inserting Text and Using WordArt, Inserting Graphics (Tables, Charts, Shapes, Clip-Art), Working with Videos, Movie-Clips, Animations, and Transitions, Sounds, Editing, Saving, Printing and Publishing Tools, Help.

MS-EXCEL: Introduction, Worksheets and Workbooks, Entering Information into MS Excel, formatting a Worksheet, Adding Elements to a Workbook, Charts, Formulas and Calculations, Statistical functions and financial functions.

Suggested Readings:

1. P.K. Sinha and P. Sinha, "Computer Fundamentals", BPB.
2. N. Subramanian, Introduction to Computers, Tata McGraw-Hill.
3. Edward G. Martin, "Discovering Microsoft Office 2016", Wiley Custom Learning Solutions.
4. Kate Shoup, "Teach Yourself Visually Office 2010", Visual.
5. V. Rajaraman, "Computer fundamentals", PHI.

BCA 114: WEB DESIGNING USING HTML

4 Credits: (4L)

Time: 3hours

Pass Marks: 35%

Number of Lectures: 60

Maximum Marks: 100

Internal Assessment: 30 marks

External: 70 marks

INSTRUCTIONS FOR THE PAPER SETTER

The question paper will consist of three sections A, B & C. Section A and B will have four questions each from respective unit of the syllabus carrying 10.5 marks for each question. Section C will have 5-10 short answer type questions, carrying 28 marks in total, which will cover the entire syllabus uniformly.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt two questions each from sections A and B of the question paper and the entire section C.

SECTION-A

Introduction to HTML: Basic HTML concepts, an overview of HTML markup.

What is good Web design, the process of Web publishing, implementation, the phases of Web site development, HTML's role in the Web, and issues facing HTML and the Web?

HTML overview: the structure of HTML documents; document types, the <HTML>element; the <HEAD> element, the <BODY> element.

Links and Addressing: Linking basics, what are URLs; linking in HTML, anchor attributes, images and anchors, image maps; semantic linking with the <LINK> element, meta-information.

HTML and Images: The role of images on the Web, image preliminaries; image downloading issues, obtaining images, HTML image basics, images as buttons; and image maps.

Introduction to Layout: Backgrounds, Colors, and Text, Design requirements, HTML approach to Web design, fonts, colors in HTML, document-wide color attributes for <BODY>, and background images.

SECTION-B

Introduction to Lists: Different types of list tags, Nested Lists, type attribute.

Tables: Basic Table tags, Setting table borders, Inserting Rows & Columns in Table, Including background colors and images in tables, Spanning Rows & Columns, Cell Spacing & Padding, Advantages & Disadvantages of using Tables.

Frames: Creating Framed documents, <Frameset> & <Frame> tags, Elastic & Nested Frames, Formatting Frames, Scroll Bars, <Noiframe> tag, Advantages & Disadvantages of using Frames.

Basic Interactivity and HTML: Forms form preliminaries; the <FORM> element; formcontrols.

Style Sheets: style sheets basics, style sheet example, style sheet properties, positioning with style sheets.

Suggested Readings:

1. Thomas A. Powell , “HTML: The Complete Reference”, Osborne/McGraw-Hill

2. Deitel, Deitel and Nieto : Internet & WWW. How to program, 2nd Edition, Pearson Education Asia.
3. E Stephen Mack, JananPlatt : HTML 4.0 , No Experience Required, 1998, BPB Publications.
4. "HTML Complete" by Sybex, BPB Publications, 2001.
5. Bayross, "Web Enabled Commercial Applications Development Using HTML, DHTML, Java Script, Perl CGI," Third Edition, BPB Publications.

BCA-115 (E1) e-Commerce
6Credits: (5L+1T)

Time: 3hours

Pass Marks: 35%

Number of Lectures: 60

Maximum Marks: 100

Internal Assessment: 30 marks

External: 70 marks

INSTRUCTIONS FOR THE PAPER SETTER

The question paper will consist of three sections A, B & C. Section A and B will have four questions each from respective unit of the syllabus carrying 10.5 marks for each question. Section C will have 5-10 short answer type questions, carrying 28 marks in total, which will cover the entire syllabus uniformly.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt two questions each from the Sections A & B of the question paper and the entire section-C.

SECTION – A

Introduction to E-commerce: Definition of E-commerce, Advantages and disadvantages of E-commerce, E-commerce versus traditional commerce.

Internet and WWW: Electronic commerce framework, Electronic commerce and media convergence, The anatomy of E-commerce applications.

Architectural framework for E-commerce: World Wide Web as the architecture, Web background: Hypertext publishing, Security and the Web.

Consumer-oriented E-commerce: Consumer-oriented applications, Mercantile Process Models – consumer's perspective, Merchant's perspective.

SECTION-B

Advertising and Marketing on the Internet: The new age information-based marketing, Advertising on the Internet – Active or push-based advertising models, Passive or pull-based advertising models. Guidelines for Internet advertising. On-line marketing process.

Types of Electronic Payment Systems: Digital token-based electronic payment systems, Smart cards and electronic payment systems, Credit card-based electronic payment systems, Risk and electronic payment systems.

Electronic Data Interchange and its applications in business. Legal, Ethical and other public policy issues related to e-commerce.

Text Book:

1. Ravi Kalakota, Andrew B. Whinston: Frontiers of Electronic Commerce, Addison Wesley.

References:

1. EfraimTurbon, Jae Le, David King, Chung: Electronic Commerce- Amanagerial perspective, Prentice-HallInternational.
2. Gary P. Schneider, James T. Perry: ElectronicCommerce

BCA-115 (E2) PRINCIPLES AND PRACTICES OF MANAGEMENT

6 Credits: (5L+1T)

Time: 3hours

Pass Marks: 35%

Lecture Delivered : 75

Maximum Marks: 100

Internal Assessment: 30 marks

External: 70 marks

INSTRUCTIONS FOR THE PAPER SETTER

The question paper will consist of three sections A, B & C. Section A and B will have four questions each from respective unit of the syllabus carrying 10.5 marks for each question. Section C will have 5-10 short answer type questions, carrying 28 marks in total, which will cover the entire syllabus uniformly.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt two questions each from the Sections A & B of the question paper and the entire Section-C.

SECTION-A

Management: Meaning, definitions, nature and scope, functions of management. Managerial roles and skills. Forms of different organizations: sole proprietorship, partnership and Joint Stock Company.

Evolution of management thoughts: classical and new classical systems, contingency approaches, Scientific management.

Planning: nature, purpose and functions, types of plan, Management by Objective (MBO), steps in planning.

Decision Making: Meaning, Steps in Decision Making, Techniques of Decision Making.

Strategic planning – concepts, process, importance and limitations; Growth strategies- Internal and external.

SECTION-B

Organizing: Concept, formal and informal organizations, task force, bases of departmentation, different forms of organizational structures, avoiding organizational inflexibility. Teamwork – meaning, types and stages of team building.

Concept of staffing- Recruitment and election.

Motivation – concept, importance and theories.

Authority: definition, types, responsibility and accountability, delegation, decentralization v/s centralization, determinants of effective decentralization. Line and staff authority.

Control: function, process and types of control, nature, process, significance and span of control. Direct control v/s preventive control.

Trends and challenges of management in global scenario.

Emerging issues in management: Introduction to Total Quality Management (TQM), Just in Time (JIT).

Suggested Text Books:

1. Principles and practices of management: L. M. PRASAD (S. Chand publishers)
2. Essentials of Management: Koontz H. & Weihrich H. (Tata McGraw Hill Publishers)

Suggested Reference Books

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1. Management: Stephen Robbins (Pearson publishers)
2. VSP Rao & V H Krishna, Management, Excel books

BCA 116: SOFTWARE LAB-I
(Based on Paper BCA-113)
2 Credits: (4P)

Time: 3hours

Pass Marks: 35%

Number of Lectures: 60

Maximum Marks: 100

Internal Assessment: 30 marks

External: 70 marks

This laboratory course will comprise of exercises to supplement what is learnt under paper BCA-113 Fundamentals of Information Technology.

The breakup of marks for the practical will be as under: -

- | | |
|---|---------|
| i. Internal Assessment | 30 |
| Marks | |
| ii. Viva Voce(External Evaluation) | |
| 40Marks | |
| iii. Lab Record, Program Development and Execution(External Evaluation) | 30Marks |
- Students are required to perform following activities:

I. MS-Word

Activity 1:

- i. Create, open, save and close a document.
- ii. Typing, copying, moving and deleting data in word document.
- iii. Perform Save and Save as, Cut and Copy, Paste and Paste Special.

Activity 2:

Formatting of data in word Document: -

- i. Text formatting (font size, font style, font color, subscript, superscript, upper/lower case etc.)
- ii. Text Alignment and character spacing.
- iii. Indention and line spacing.
- iv. Border and shading.
- v. Bullets and Numbering

Activity3:

- i. Find and replace and data sorting in a document.
- ii. Protect your document.
- iii. Add chart in word document. Create different types of Charts in word.
- iv. Set a size, margin, orientation of page, Hyphenation, Columns and Line Numbers in MS-Word.

Activity4:

- i. Set Page Color, Page Border, Themes, and Watermarks in MS-Word.
- ii. Adding Tables, header/footers, pictures, page numbers and special symbols, Text Box in your word document.
- iii. Showing Ruler, Gridlines, Document Map, Thumbnails, Inserting Word Art, Drop Cap, Hyperlink, Equation etc. in word document

Activity 5:

- i. Arranging, splitting windows in MS-word?
- ii. Perform Mail-merge in MS-word.
- iii. Create and run Macros in MS-Word.
- iv. Set the print properties of a word document.

II. PowerPoint

Activity1:

- i. Create, open, save and close a Presentation.
- ii. Typing, copying, moving and deleting data in presentation.

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- iii. New Slide, understanding Slide Layout, adding and deleting slides.

Activity 2:

Formatting of data in slides: -

- i. Text formatting (font size, font style, font color, subscript, superscript, upper/lower case etc.)
- ii. Text Alignment and character spacing.
- iii. Indention and line spacing.
- iv. Border and shading.
- v. Bullets and Numbering

Activity3:

- i. Set a size, margin, orientation of slides in PowerPoint.
- ii. Adding Tables, header/footers, pictures, page numbers and special symbols, Text Box etc. in your presentation.

Activity4:

- i. Adding Animation and Transition Effects in Slides, Understanding Slide Show
- ii. Presentation Views, Understanding Formatting commands in PowerPoint

Activity5:

- i. Create and run Macros in PowerPoint.
- ii. Arranging, splitting windows in MS-PowerPoint.

III. MS-Excel

Activity 1

- i. Create, open, save and close workbook.
- ii. Create a new worksheet, renaming and moving sheet.
- iii. Entering, copying, moving and deleting data in cells and worksheets.
- iv. Insert and delete cells, columns and rows in MS-Excel.

Activity 2:

Formatting of data in cells: -

- i. Text formatting (font size, font style, font color, Cell border etc.)
- ii. Text Alignment.
- iii. Text Orientation, Text Direction, Text Control.

Activity3:

- i. Find and replace data in a sheet.
- ii. Perform data sorting and data filtering in MS-Excel.
- iii. Protect your Worksheet and Workbook?
- iv. Enter and perform some basic formulas in MS-excel.

Activity4:

- i. Perform some basic Functions in MS-Excel.
- ii. Create different types of Charts in excel.
- iii. Set a size, margin, orientation of page in MS-Excel.
- iv. The print properties of a worksheet in MS-Excel.

Activity5:

- i. Hide and unhide row and column in MS-Excel.
- ii. Set column width and row height in MS-Excel.
- iii. Adding text Box, header/footers, pictures and special symbols in your worksheet.

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- iv. Arranging, splitting and hiding windows in MS-Excel. And also freezing panes Create and run Macros in MS-Excel.

BCA 117: SOFTWARE LAB-II
(Based on Paper BCA -114)
2Credits: (4P)

Time: 3hours

Pass Marks: 35%

Number of Lectures: 60

Maximum Marks: 100

Internal Assessment: 30 marks

External: 70 marks

This laboratory course will comprise of exercises to supplement what is learnt under paper BCA 114 Web Designing Using HTML.

The breakup of marks for the practical will be as under: -

i. Internal Assessment	30 Marks
ii. Viva Voce(External Evaluation)	40 Marks
iii. Lab Record, Program Development and Execution(External Evaluation)	30 Marks

Students are required to develop the following programs:

- 1) Create a web page to show the structure of HTML.
- 2) Show the use of formatting tags in HTML.
- 3) Write HTML code to show the use of absolute and relative URL with anchor tag.
- 4) Show the use of image tag and show images as buttons.
- 5) Create a web page to show the use of image maps.
- 6) Create a table in which colspan and rowspan elements are used.
- 7) Create a webpage to show the use of different lists available in HTML.
- 8) Create a webpage to show the use of frame tag in HTML.
- 9) Create admission form for a college.

BCA-118 (SAE-1.1) DRUG ABUSE: PROBLEM, MANAGEMENT & PREVENTIONS

Time Allowed: 3 hours

Pass Marks: 35 %

Maximum Marks: 50

Internal Assessment: 15 Marks

External: 35 marks

INSTRUCTIONS FOR THE PAPER SETTERS

The question paper will consist of three sections A, B and C. Each of sections A and B will have four questions from the respective sections of the syllabus. Each question shall carry 7 marks. Section C will consist of 14 short answer type of 2 marks each.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt any three questions from section A and any three questions from section B. Section C is compulsory.

SECTION-A

UNIT: I – Problem of Drug Abuse: Concept and Overview; Types of Drug Often Abused

a. Concept and Overview

What are drugs and what constitutes Drug Abuse?

Prevalence of menace of Drug Abuse

How drug Abuse is different from Drug Dependence and Drug Addiction?

Physical and psychological dependence- concepts of drug tolerance

b. Introduction to drugs of abuse: Short Term, Long term effects & withdrawal symptoms

Stimulants: Amphetamines, Cocaine, Nicotine

Depressants: Alcohol, Barbiturates- Nembutal, Seconal, Phenobarbital

Benzodiazepines–

Diazepam, Alprazolam, Flunitrazepam

Narcotics: Opium, morphine, heroin

Hallucinogens: Cannabis & derivatives (marijuana, hashish, hash oil)

Steroids

Inhalants

UNIT: II –Nature of the Problem

Vulnerable Age Groups

Signs and symptoms of Drug Abuse

(a)- Physical indicators

(b)- Academic indicators

(c)- Behavioral and Psychological indicators

SECTION B

UNIT: III – Causes and Consequences of Drug Abuse

a. Causes

Physiological

Psychological

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Sociological

b. Consequences of Drug Abuse

For individuals

For families

For society & Nation

Unit: IV- Management & Prevention of Drug Abuse

Management of Drug Abuse

Prevention of Drug Abuse

Role of Family, School, Media, Legislation & Deaddiction Centers

Suggested Readings:

1. Kapoor.T. (1985) Drug Epidemic among Indian Youth, New Delhi: Mittal Pub
2. Modi, Ishwar and Modi, Shalini (1997) Drugs: Addiction and Prevention, Jaipur: Rawat Publication.
3. Ahuja, Ram,(2003), Social Problems in India, Rawat Publications: Jaipur
4. 2003 National Household Survey of Alcohol and Drug Abuse. New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.
5. World Drug Report 2011, United Nations Office of Drug and Crime.
6. World Drug Report 2010, United Nations Office of Drug and Crime.
7. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment,
Government of India, 2004.
8. The Narcotic Drugs and Psychotropic Substances Act, 1985, (New Delhi: Universal, 2012)

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BCA (Code: BCA 121)

(Semester-II)

English (Communication Skills)

Time Allowed: 3 Hours

Periods per week: 4

Credits: 04

Teaching Hours: 60

Max. Marks: 100

Written Examination: 70

Internal Assessment: 30

Pass Percentage: 35%

Instructions for the Paper Setter: The question paper will carry 70 marks and will be of three hours duration. The paper will consist of two units. Following shall be the unit wise marks division:

- Unit-I – 20 Marks
- Unit-II – 50 Marks

Note: - We humbly request that the paper setter consults the testing pattern given in testing section.

Instructions for the candidates: Candidates are required to attempt all the questions as per the instructions given in the testing section.

Course Objective:

The objective of the paper is to introduce the students to the theory, fundamentals and tools of communication. The course aims at developing the vital communication skills among students for personal, social and professional interactions

Pedagogy: Primarily the chalk and duster method will be used to teach this course. To evoke the interest of the students in the curriculum due emphasis will be laid on assignments, homework and periodic tests.

Unit I

Part -A: Communication Skills

1. Meaning of Communication
2. Importance of Communication
3. Process of Communication
4. Types of Communication
5. Channels of Communication
6. Barriers to Effective Communication
7. Effective listening skills
8. Public speaking skills

Part – B: Interview Skills

1. Types of Interview
2. Appearing for an Interview
3. Conducting an Interview

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4. Body Language & Dress Code
5. Group Discussion

Unit III

Composition:

1. Report Writing
2. E-mail Writing (Address, Subject, Content, Complementary Closed)
3. Meeting Skills (Writing Agenda and Minutes of Meeting)
4. Job application along with Resume/ Curriculum Vitae
5. Business Letters/ Official Letters/Memorandum Writing

Testing

Unit-I

1. The examiner shall set one long answer type question with internal choice from Part-A of Unit-I of the syllabus. 10 marks
2. The examiner shall set one long answer type question with internal choice from Part -B of unit-I of the syllabus. 10 marks

Unit-II

3. The examiner shall set one question pertaining to report writing with internal choice. 10 marks
4. The examiner shall set one question pertaining to email writing with internal choice. 10 marks
5. The examiner shall set one question about the Meeting Skills. An internal choice will be given between Agenda and Minutes of Meeting. 10 marks
6. The examiner shall set one question with an internal choice pertaining to job application & Resume/CV Writing. The candidate is required to write a job application along with resume/C.V. 5+5=10 marks
7. The examiner shall one question relating to letter and memorandum writing. There shall be internal choice between business/official letters and Memorandum Writing. 10 marks

Course learning outcome:

1. Communication skills of students will improve.
2. The students will distinguish among various levels of organizational communication.
3. Students will develop an ability for effective business correspondence with brevity and clarity.

Suggested Readings:

Business Communication by MK Sehgal, Vandana Khetarpal.
Bovee and Thill. *Business Communication Today*, Pearson Education.
Brian R Hollaway. *Technical Writing Basis: A Guide to Style and Form*. 4th Pearson -Prentice Hall.
Kaur, Gurpreet. *Communication Skills and Technical Writings*. New Academic Publishing Co. 2014.
Kumar, Varinder and Bodhraj. *Business Communication*.2014.

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Dr. Gurpreet Kaur

A grey rectangular box containing a faint, handwritten signature in blue ink.

Dr. Ajay Verma

Dr. Swaraj Raj

APPROVED

Board of Studies Meeting held on 19th June 2021

ਬੀ.ਸੀ.ਏ.ਭਾਗ ਪਹਿਲਾ , ਸਮੈਸਟਰ ਦੂਜਾ
ਪੇਪਰ-ਪੰਜਾਬੀ ਲਾਜ਼ਮੀ, ਪੇਪਰ ਕੋਡ: BSP-201A, ਕ੍ਰੈਡਿਟ-04
2020-21, 2021-22 ਸੈਸ਼ਨ ਲਈ

ਕੁੱਲ ਅੰਕ : 100

ਬਾਹਰੀ ਪਰੀਖਿਆ: 70 ਅੰਕ

ਅੰਦਰੂਨੀ ਮੁਲਾਂਕਣ : 30 ਅੰਕ

ਸਮਾਂ: 3 ਘੰਟੇ

ਵਿਸ਼ੇ ਵਿਚੋਂ ਪਾਸ ਅੰਕ : 35

ਬਾਹਰੀ ਪਰੀਖਿਆ ਵਿਚੋਂ ਪਾਸ ਅੰਕ: 25

ਅੰਦਰੂਨੀ ਮੁਲਾਂਕਣ ਵਿਚੋਂ ਪਾਸ ਅੰਕ: 10

ਕੁੱਲ ਲੈਕਚਰ: 60

ਪਾਠਕ੍ਰਮ ਦਾ ਉਦੇਸ਼:

1. ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਾਹਿਤ ਪੜ੍ਹਨ ਲਈ ਪ੍ਰੇਰਿਤ ਕਰਨਾ।
2. ਮਾਤ ਭਾਸ਼ਾ ਵਿੱਚ ਉਚੇਰੀ ਸਿੱਖਿਆ ਗ੍ਰਹਿਣ ਕਰਨ ਦੀ ਜਾਗ ਲਾਉਣਾ।
3. ਵਿਆਕਰਨਕ ਪੱਖਾਂ ਨਾਲ ਰਾਬਤਾ ਕਾਇਮ ਕਰਵਾਉਣਾ।
4. ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਚਿੱਠੀ-ਪੱਤਰ ਲਿਖਣਾ ਸਿਖਾਉਣਾ।

ਪੇਪਰ ਸੈੱਟਰ ਅਤੇ ਵਿਦਿਆਰਥੀਆਂ ਲਈ ਹਦਾਇਤਾਂ

1. ਭਾਗ-ਓ: ਵਿਚੋਂ ਨਿਬੰਧ ਦਾ ਵਿਸ਼ਾ-ਵਸਤੂ ਜਾਂ ਸਾਰ (ਤਿੰਨ ਵਿਚੋਂ ਇੱਕ) 10 ਅੰਕ
2. ਭਾਗ-ਓ: ਵਿਚੋਂ ਪੁਸਤਕ ਵਿਚਲੇ ਵਿਚਾਰਾਂ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ (ਪੰਜ ਵਿਚੋਂ ਦੋ) $5+5=10$ ਅੰਕ
3. ਭਾਗ-ਅ: 1 ਵਿਚੋਂ ਚਿੱਠੀ-ਪੱਤਰ (ਤਿੰਨ ਵਿਚੋਂ ਇੱਕ) 10 ਅੰਕ
4. ਭਾਗ-ਅ: 2 ਵਿਚੋਂ ਵਿਆਕਰਨ ਨਾਲ ਸੰਬੰਧਿਤ ਵਰਣਾਤਮਕ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇੱਕ) 10 ਅੰਕ
5. ਭਾਗ-ੲ ਵਿਚ ਨਿਬੰਧ ਦੀ ਪਾਠ-ਪੁਸਤਕ ਅਤੇ ਵਿਆਕਰਨ ਵਿੱਚੋਂ ਕੁੱਲ $15(8+7)$ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਲਾਜ਼ਮੀ ਪ੍ਰਸ਼ਨ। ਵਿਦਿਆਰਥੀਆਂ ਲਈ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਲਾਜ਼ਮੀ ਹਨ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ 02 ਅੰਕਾਂ ਦਾ ਹੋਵੇਗਾ।

$15 \times 2 = 30$ ਅੰਕ

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪ੍ਰਸ਼ਨ-ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ

ਭਾਗ-ਓ

ਓ -ਜੀਵਨ-ਵਿਹਾਰ (ਵਾਰਤਕ-ਸੰਗ੍ਰਹਿ), ਮੁੱਖ ਸੰਪਾ. ਡਾ. ਜਸਵੀਰ ਸਿੰਘ, ਸੰਪਾ. ਡਾ. ਅਵਤਾਰ ਸਿੰਘ,
ਡਾ. ਗੁਰਪ੍ਰੀਤ ਕੌਰ, ਪ੍ਰੋ. ਸੁਖਵਿੰਦਰ ਸਿੰਘ, ਸ੍ਰੀ ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਖਾਲਸਾ ਕਾਲਜ,
ਸ੍ਰੀ ਅਨੰਦਪੁਰ ਸਾਹਿਬ ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ

ਭਾਗ-ਅ

ਅ1: ਦਫ਼ਤਰੀ ਚਿੱਠੀ -ਪੱਤਰ

ਅ-2: ਵਿਆਕਰਨ

- (i) ਭਾਸ਼ਾ ਦਾ ਟਕਸਾਲੀ ਰੂਪ
- (ii) ਭਾਸ਼ਾ ਅਤੇ ਉਪਭਾਸ਼ਾ ਦਾ ਅੰਤਰ
- (iii) ਪੂਰਬੀ ਪੰਜਾਬ ਦੀਆਂ ਉਪਭਾਸ਼ਾਵਾਂ ਦੇ ਪਛਾਣ- ਚਿੰਨ੍ਹ
- (iv) ਸ਼ਬਦ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ
- (v) ਵਧੇਰ

ਭਾਗ-ੲ

ਭਾਗ-ੲ ਅਤੇ ਵਿਆਕਰਨ ਵਾਲੇ ਭਾਗ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ

ਸਹਾਇਕ ਪੁਸਤਕਾਂ

1. ਬੂਟਾ ਸਿੰਘ ਬਰਾੜ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਸ੍ਰੋਤ ਤੇ ਸਰੂਪ, ਵਾਰਿਸ਼ ਸ਼ਾਹ ਫਾਂਊਡੇਸ਼ਨ ਅੰਮ੍ਰਿਤਸਰ, 2012
2. ਬੂਟਾ ਸਿੰਘ ਬਰਾੜ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਸਿਧਾਂਤ ਅਤੇ ਵਿਹਾਰ, ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ, ਲੁਧਿਆਣਾ, 2008
3. ਬਲਦੇਵ ਸਿੰਘ ਚੀਮਾ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਤੇ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਤਕਨੀਕੀ ਸ਼ਬਦਾਵਲੀ ਦਾ ਵਿਸ਼ਾ ਕੋਸ਼,

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Board of Studies Meeting held on 19th June 2021

ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2009

4. ਡਾ.ਜੋਗਿੰਦਰ ਸਿੰਘ ਪੁਆਰ ਅਤੇ ਹੋਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਵਿਆਕਰਨਕ ਭਾਗ I, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ, ਜਲੰਧਰ, 1991
5. ਡਾ.ਜੋਗਿੰਦਰ ਸਿੰਘ ਪੁਆਰ ਅਤੇ ਹੋਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਵਿਆਕਰਨਕ ਭਾਗ II, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ, ਜਲੰਧਰ, 1991
6. ਗਿਆਨੀ ਲਾਲ ਸਿੰਘ ਤੇ ਹਰਕੀਰਤ ਸਿੰਘ, ਕਾਲਜ ਪੰਜਾਬੀ ਵਿਆਕਰਣ, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀ.ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ
7. ਸੰਤ ਸਿੰਘ ਸੇਖੋ, ਸਾਹਿਤਆਰਥ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ
8. ਬਲਵੀਰ ਸਿੰਘ ਦਿਲ, ਪੰਜਾਬੀ ਨਿਬੰਧ : ਸਰੂਪ, ਸਿਧਾਂਤ ਅਤੇ ਵਿਕਾਸ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ, ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
9. ਖੋਜ ਪੱਤ੍ਰਿਕਾ, ਨਿਬੰਧ ਅੰਕ-29, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ, ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।

ਬੀ.ਸੀ.ਏ.ਭਾਗ ਪਹਿਲਾ , ਸਮੈਸਟਰ ਦੂਜਾ

ਪੇਪਰ-ਪੰਜਾਬੀ ਮੁੱਢਲਾ ਗਿਆਨ

ਪੇਪਰ ਕੋਡ: BSP-201B, ਕ੍ਰੈਡਿਟ-04

2020-21, 2021-22 ਸੈਸ਼ਨ ਲਈ

ਕੁੱਲ ਅੰਕ : 100

ਬਾਹਰੀ ਪਰੀਖਿਆ: 70 ਅੰਕ

ਅੰਦਰੂਨੀ ਮੁਲਾਂਕਣ : 30 ਅੰਕ

ਸਮਾਂ: 3 ਘੰਟੇ

ਵਿਸ਼ੇ ਵਿਚੋਂ ਪਾਸ ਅੰਕ : 35

ਬਾਹਰੀ ਪਰੀਖਿਆ ਵਿਚੋਂ ਪਾਸ ਅੰਕ: 25

ਅੰਦਰੂਨੀ ਮੁਲਾਂਕਣ ਵਿਚੋਂ ਪਾਸ ਅੰਕ: 10

ਕੁੱਲ ਲੈਕਚਰ: 60

ਪਾਠਕ੍ਰਮ ਦਾ ਉਦੇਸ਼:

1. ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਾਹਿਤ ਪੜ੍ਹਨ ਲਈ ਪ੍ਰੇਰਿਤ ਕਰਨਾ।
2. ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਜਾਣਕਾਰੀ ਦੇਣਾ।
3. ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਪੜ੍ਹਨਾ ਅਤੇ ਲਿਖਣਾ ਸਿਖਾਉਣਾ।

ਪੇਪਰ ਸੈਂਟਰ ਅਤੇ ਵਿਦਿਆਰਥੀਆਂ ਲਈ ਹਦਾਇਤਾਂ:

1. ਭਾਗ-ੳ: ਵਿਚੋਂ ਵੱਡੇ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇੱਕ) 10 ਅੰਕ
2. ਭਾਗ-ੳ ਵਿਚੋਂ ਛੋਟੇ ਪ੍ਰਸ਼ਨ (ਛੇ ਵਿਚੋਂ ਚਾਰ) $5+5+5+5=20$ ਅੰਕ
3. ਭਾਗ-ਅ ਵਿਚੋਂ ਵੱਡੇ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇੱਕ) 10 ਅੰਕ
4. ਭਾਗ-ਅ ਵਿਚੋਂ ਛੋਟੇ ਪ੍ਰਸ਼ਨ (ਛੇ ਵਿਚੋਂ ਚਾਰ) $5+5+5+5=20$ ਅੰਕ
5. ਭਾਗ-ੲ ਵਿਚ ਭਾਗ ੳ ਅਤੇ ਅ ਵਿਚੋਂ ਕੁੱਲ 10 ਆਬਜੈਕਟਿਵ ਪ੍ਰਸ਼ਨ। ਵਿਦਿਆਰਥੀਆਂ ਲਈ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਲਾਜ਼ਮੀ ਹਨ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ 01 ਅੰਕ ਦਾ ਹੋਵੇਗਾ। (10X1=10 ਅੰਕ)

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪ੍ਰਸ਼ਨ-ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ

ਭਾਗ-ੳ

- ੳ - 1. ਵਿਰੋਧੀ ਸ਼ਬਦ, ਸਮਾਨਾਰਥਕ ਸ਼ਬਦ
2. ਲਿੰਗ, ਵਚਨ, ਕਾਲ ਅਤੇ ਪੁਰਖ
3. ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ (ਨਾਂਵ, ਪੜਨਾਂਵ ਅਤੇ ਕਿਰਿਆ): ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਉਦਾਹਰਣਾਂ
4. ਵਿਸ਼ਰਾਮ ਚਿੰਨ੍ਹਾਂ ਦੀ ਵਰਤੋਂ

ਭਾਗ-ਅ

- ਅ - ਲੇਖ ਰਚਨਾ (200 ਸ਼ਬਦਾਂ ਵਿੱਚ): ਮੇਰਾ ਅਧਿਆਪਕ, ਮੇਰਾ ਕਾਲਜ ਅਤੇ ਦੀਵਾਲੀ
2. ਚਿੱਠੀ ਪੱਤਰ: ਫ਼ੀਸ ਮੁਆਫ਼ੀ ਅਤੇ ਬਿਮਾਰੀ ਕਾਰਨ ਛੁੱਟੀ ਲੈਣ ਸੰਬੰਧੀ
3. ਦੇਸੀ ਅਤੇ ਅੰਗਰੇਜ਼ੀ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ
4. ਇੱਕ ਤੋਂ ਸੌ ਤੱਕ ਗਿਣਤੀ

ਭਾਗ-ੲ

ਭਾਗ ੳ ਅਤੇ ਅ ਵਿਚੋਂ ਆਬਜੈਕਟਿਵ ਪ੍ਰਸ਼ਨ

ਨੋਟ: ਵਿਦਿਆਰਥੀ ਗੁਰਮੁਖੀ ਸਿੱਖ ਰਹੇ ਹਨ। ਇਸ ਲਈ ਵਿਦਿਆਰਥੀਆਂ ਦੇ ਪੱਧਰ ਨੂੰ ਧਿਆਨ ਵਿੱਚ ਰੱਖਦੇ ਹੋਏ ਸਰਲ ਅਤੇ ਸਪੱਸ਼ਟ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣ।

ਸਹਾਇਕ ਪੁਸਤਕਾਂ

1. ਸਤਿਨਾਮ ਸਿੰਘ ਸੰਧੂ, ਆਓ ਪੰਜਾਬੀ ਸਿੱਖੀਏ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2009
2. ਸਤਿਨਾਮ ਸਿੰਘ ਸੰਧੂ, ਗੁਰਮੁਖੀ ਸਿੱਖੇ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2011
3. ਸੀਤਾ ਰਾਮ ਬਾਹਰੀ, ਪੰਜਾਬੀ ਸਿੱਖੀਏ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2002
4. ਪੰਜਾਬੀ ਗਿਆਨ ਸੀ.ਡੀ. (ਕੰਪਿਊਟਰ ਐਪਲੀਕੇਸ਼ਨ ਟੂ-ਲਰਨ ਐਂਡ ਟੀਚ ਪੰਜਾਬੀ), ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
5. ਚਰਨ ਪੁਆਧੀ, ਆਓ ਪੰਜਾਬੀ ਸਿੱਖੀਏ, ਸੰਗਮ ਪਬਲੀਕੇਸ਼ਨ, ਪਟਿਆਲਾ

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Board of Studies Meeting held on 19th June 2021

BCA 123: PROGRAMMING FUNDAMENTALS USING C

4 Credits: (4L)

Time: 3hours

Pass Marks: 35%

Number of Lectures: 60

Maximum Marks: 100

Internal Assessment: 30 marks

External: 70 marks

INSTRUCTIONS FOR THE PAPER SETTER

The question paper will consist of three sections A, B & C. Section A and B will have four questions each from respective unit of the syllabus carrying 10.5 marks for each question. Section C will have 5-10 short answer type questions, carrying 28 marks in total, which will cover the entire syllabus uniformly.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt two questions each from the Sections A & B of the question paper and the entire Section-C.

SECTION-A

Programming Process: Problem definition, Algorithm development, Flowchart, Coding, Compilation and debugging.

Basic structure of C program: History of C, Structure of a C program, Character set, Identifiers and keywords, constants, variables, data types.

Operators and expressions: Arithmetic, Unary, Logical, Relational operators, assignment operators, Conditional operators, Hierarchy of operations type conversion.

Control statements: branching statements (if, if else, switch), loop statements (for, while and do-while), jump statements (break, continue, goto), nested control structures.

Functions: Library functions and user defined functions, prototype, definition and call, formal and actual arguments, local and global variables, methods of parameter passing to functions, recursion.

I/O functions: formatted & unformatted console I/O functions

SECTION-B

Storage Classes: automatic, external, static and register variables.

Arrays: – One dimensional and two-dimensional arrays

Declaration, initialization, reading values into an array, displaying array contents

Strings: input/output of strings, string handling functions (strlen, strcpy, strcmp, strcat & strrev), table of strings.

Structures and unions: using structures and unions, comparison of structure with arrays and union.

Pointers: pointer data type, pointer declaration, initialization, accessing values using pointers, pointers and arrays.

Introduction to Files in C: opening and closing files. Basic I/O operation on files.

Reference Books:

1. E. Balagurusamy, Programming in C, Tata McGraw-Hill.
2. Kernighan and Ritchie, The C Programming Language, PHI.
3. Byron Gotfried, Programming in C.
4. Kamathane, Programming in C, Oxford University Press.

APPROVED

Board of Studies Meeting held on 19th June 2021

BCA 124: OPERATING SYSTEMS

4 Credits: (4L)

Time: 3hours

Pass Marks: 35%

Number of Lectures: 60

Maximum Marks: 100

Internal Assessment: 30 marks

External: 70 marks

INSTRUCTIONS FOR THE PAPER SETTER

The question paper will consist of three sections A, B & C. Section A and B will have four questions each from respective unit of the syllabus carrying 10.5 marks for each question. Section C will have 5-10 short answer type questions, carrying 28 marks in total, which will cover the entire syllabus uniformly.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt two questions each from the Sections A & B of the question paper and the entire Section-C.

SECTION-A

Operating System – Definition, Need, Services, Types of operating systems: simple batch system, multi programmed batch system, time sharing system, parallel system, distributed system, real time system, personal computer system. Operating system components, operating system services, system calls.

Process Management – Process definition, Process state, Process scheduling, Operations on processes, Basic concepts of thread, Difference between process and thread.

CPU Scheduling – Basic concepts, Scheduling Criteria, Scheduling Algorithms – FCFS, SJF, Round Robin and Multilevel Queue Scheduling.

SECTION-B

Deadlocks – Characteristics of deadlocks, methods for handling deadlocks, deadlock prevention, deadlock avoidance

Memory Management – Logical versus Physical address space, swapping, contiguous allocation, Paging, Concept of Virtual memory, Implementation by Demand Paging, Page replacement algorithms – FIFO, Optimal, LRU, Concept of thrashing.

File Management – Allocation methods: Contiguous allocation, Linked allocation and Indexed allocation;

Device Management – Disk Scheduling: FCFS, SSTF, SCAN, C-SCAN, LOOK.

Text Book:

1. Abraham Silberschatz, Peter B. Galvin, Operating System Concepts, Addison –Wesley Publishing Co. Engineering, Third Edition 2005, Pankaj Jalote, Narosa Publications. 5th Edition.

BCA 125 (E1): COMPUTER SYSTEM ARCHITECTURE
6 Credits: (5L+1T)

Time: 3hours

Pass Marks: 35%

Number of Lectures: 75

Maximum Marks: 100

Internal Assessment: 30 marks

External: 70 marks

INSTRUCTIONS FOR THE PAPER SETTER

The question paper will consist of three sections A, B & C. Section A and B will have four questions each from respective unit of the syllabus carrying 10.5 marks for each question. Section C will have 5-10 short answer type questions, carrying 28 marks in total, which will cover the entire syllabus uniformly.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt two questions each from the Sections A & B of the question paper and the entire Section-C.

SECTION-A

Digital Logic Circuits: Basic Logic Gates, Boolean Algebra, Map Simplifications: SOP and POS Forms, Don't Care Conditions.

Combinational Logic Design: Half-adder, Full adder, Parallel adder.

Sequential Circuits : Concepts, Flip-Flops (SR, D, JK, JK-Master-Slave, T), Counters (Ripple, Asynchronous, Synchronous, Decade, Mod-5).

Register Transfer and Micro-Operations: Register Transfer Language, Arithmetic, Logic and Shift micro-operations, Arithmetic Logic Shift unit.

SECTION-B

Basic Computer Organization & Design: Basic Computer Architecture, Functional Organization, Register Organization, Arithmetic and Logic Unit, Timing and Control Unit, Instruction Cycle. **Central Processing Unit:** Instruction Formats, Addressing Modes, Data Transfer and Manipulation, Interrupt, RISC/CISC Architecture.

Input /Output Organization: Peripheral devices, I/O interface, Modes of data transfer: Programmed I/O, Interrupt initiated I/O, Direct Memory Access (DMA), I/O processor.

Memory organization: Memory Hierarchy, Memory types: Main Memory, Auxiliary Memory, Associative Memory, Cache Memory.

Text Books

1. Modern Digital Electronics by R.P. Jain, Fourth Edition, TMH.
2. M.M. Mano, "Computer System Architecture", Third Edition, Prentice Hall of India, 2002.
3. A.S. Tannenbaum, "Structured Computer Organization", Prentice- Hall of India, 1999.
4. William Stallings, "Computer Organization and Architecture", 6th edition, Pearson Education, 2000.

BCA 125 (E2): SYSTEM ANALYSIS AND DESIGN
6 Credits: (5L+1T)

Time: 3hours

Pass Marks: 35%

Number of Lectures: 75

Maximum Marks: 100

Internal Assessment: 30 marks

External: 70 marks

INSTRUCTIONS FOR THE PAPER SETTER

The question paper will consist of three sections A, B & C. Section A and B will have four questions each from respective unit of the syllabus carrying 10.5 marks for each question. Section C will have 5-10 short answer type questions, carrying 28 marks in total, which will cover the entire syllabus uniformly.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt two questions each from the Sections A & B of the question paper and the entire Section-C.

SECTION-A

Systems concepts: Definition and Characteristics of a System, Elements of a System, Types of Systems.

The system development life cycle: Introduction to various phases.

The Role of the Systems Analyst: Qualifications of a systems analyst, various roles of the systems analyst.

Systems Analysis: Initial investigation, needs identification, determining the user's information requirements, Information-gathering tools.

SECTION-B

Structured Analysis Tools: Data flow diagram, Data dictionary, Decision tree, Structured English, Decision tables.

Feasibility study: Feasibility considerations, Steps in Feasibility analysis.

Systems Design: The process and stages of systems design, Input/output and forms design, Database design.

Implementation and Software Maintenance: Conversion, Post-implementation review. Software Maintenance: Maintenance or enhancement, Primary activities of a maintenance procedure.

Hardware and Software Selection: Procedure and major phases in selection.

Text Book:

1. E. M. Awad: Systems Analysis and Design, Galgotia Publications (P)Ltd.

Reference Books:

1. Systems Analysis and Design: Techniques, Methodologies, Approaches, And Architectures 1st Edition **Author:** Hardgrave Bill C. , SiauKeng, Chiang RogerH.L.
Publisher: M.E. Sharpe.

BCA 126: SOFTWARE LAB-III
(Based on Paper BCA-123)
2 Credits: (4P)

Time: 3hours

Pass Marks: 35%

Number of Lectures: 60

Maximum Marks: 100

Internal Assessment: 30 marks

External: 70 marks

This laboratory course will comprise of exercises to supplement what is learnt under paper BCA123 Programming Fundamentals Using C.

The breakup of marks for the practical will be as under: -

i. Internal Assessment	30 Marks
ii. Viva Voce(External Evaluation)	40 Marks
iii. Lab Record, Program Development and Execution(External Evaluation)	30Marks

Students are required to develop the following programs:

- 1. Operators and data types in C**
 - a. Write a program to print the size of all the data types supported by C and its range.
 - b. Write a program to convert temperature from Fahrenheit to Celsius.
 - c. Write a program to find simple interest and compound interest.
- 2. Control statements**
 - a. Write a program to check whether the given number is a even number or not.
 - b. Write a program to accept three numbers and find the largest among them.
 - c. Write a program to count the different vowels in a line of text using switch.
 - d. Write a program to accept two numbers and perform various arithmetic operations (+, -, *, /) based on the symbol entered.
 - e. Write a program to find factorial of a number.
 - f. Write a program to check whether a number is prime or not.
 - g. Write a program to print all prime numbers between any 2 given limits.
 - h. Write a program to check whether a number is palindrome or not.
 - i. Write a program to print all the Armstrong numbers between any 2 given limits.
- 3. Arrays and strings**
 - a. Write a program to find largest element in an array.
 - b. Write a program to find sum and average of numbers stored in an array.
 - c. Write a program to check whether a string is a Palindrome.
 - d. Write a program to perform matrix addition.
 - e. Write a program to perform matrix multiplication.
- 4. Functions and recursion**
 - a. Write a program to find the roots of a quadratic equation using function.
 - b. Write a recursive program to find the factorial of a number.
 - c. Write a recursive program to find the nth Fibonacci number.
- 5. Structures and unions**
 - a. Create an employee structure and display the same.
 - b. Create a student database storing the roll no, name, class etc. and sort by name.
- 6. Pointers**
 - a. Write a function to swap two numbers using pointers.
 - b. Write a program to access an array of integers using pointers.
- 7. Files**

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- a. Create a file and store some records in it. Display the contents of the same. Count numbers of characters, words and lines in the file.

BCA 127: SOFTWARE LAB-IV
(Based on Paper BCA-124)
2 Credits: (4P)

Time: 3hours

Pass Marks: 35%

Number of Lectures: 60

Maximum Marks: 100

Internal Assessment: 30 marks

External: 70 marks

This laboratory course will comprise of exercises to supplement what is learnt under paper BCA124 Operating Systems.

The breakup of marks for the practical will be as under: -

i. Internal Assessment	30 Marks
ii. Viva Voce(External Evaluation)	40 Marks
iii. Lab Record, Program Development and Execution(External Evaluation)	30Marks

Students are required to practice the following activities:

1. Installation of Windows Operating System
2. Working with Files: Saving & Closing a File
3. Mouse Mechanisms: Click, Double Click, Drag & Drop Method
4. Installation of New Software
5. Control Panel
6. Accessories
7. Network Neighborhood
8. System Tools
9. Recycle Bin
10. Files & Directory Management under Windows

BCA 128(SAE-1.2): Environmental and Road Safety Awareness
4 Credits: (4L)

Time Allowed: 3hours
Pass Marks: 35%

Maximum Marks: 100
Internal Assessment: 30 marks
External: 70 marks

INSTRUCTIONS FOR THE PAPER SETTERS

The question paper will consist of three sections A, B and C. Each of sections A and B will have four questions from the respective sections of the syllabus. Each question shall carry 7 marks. Section C will consist of 7 short answer type questions of 1 mark each.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt any two questions from each section A and B. Section C is compulsory.

SECTION-A

INTRODUCTION TO ENVIRONMENTAL STUDIES: The multidisciplinary nature of environmental studies. Definition, scope and importance, Concept of Biosphere – Lithosphere, Hydrosphere, Atmosphere.

ECOSYSTEM & BIODIVERSITY CONSERVATION

Ecosystem and its components, Types of Ecosystems

Biodiversity - Definition and Value, Threats to biodiversity and its conservation

Level of biological diversity: genetic, species and ecosystem diversity; bio-geographic zones of India; biodiversity patterns and global biodiversity hot spots.

India as Mega-biodiversity nation; Endangered and endemic species of India.

Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and informational value.

NATURAL RESOURCES–RENEWABLE AND NON-RENEWABLE RESOURCES

Land resources and land use change; land degradation, soil erosion and desertification.

Deforestation: causes and impacts due to mining, dam building on environment, Forests, Biodiversity and tribal populations.

Water: Use and over-exploitation of surface and ground water, Floods, droughts, conflicts over water (international & inter-state)

Energy resources: renewable and nonrenewable energy sources, use of alternate energy sources, growing energy needs, case studies.

SECTION-B

ENVIRONMENTAL POLLUTION

Environmental Pollution: types, causes, effects and controls; Air, water, soil, chemical and noise pollution, Nuclear hazards and human health risks, Solid waste management: Control measures of urban and industrial waste, Pollution case studies.

ENVIRONMENTAL POLICIES AND PRACTICES

Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture.

Environment Laws : Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest

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Conservation Act; International agreements; Montreal and Kyoto protocols and conservation on Biological Diversity (CBD). The Chemical Weapons Convention (CWC), Nature reserves, tribal population and rights, and human, wildlife conflicts in Indian context.

Human Communities and the Environment: Human population growth: Impacts on environment, human health and welfare, Sanitation & Hygiene. Resettlement and rehabilitation of project affected persons; case studies. Disaster management: floods, earthquake, cyclones and landslides. Environment movements: Chipko, Silent valley, Bishnois of Rajasthan. Environmental ethics: Role of Indian and other religions and cultures in environmental conservation for a Clean-green pollution free state.

Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi)

Suggested Readings:

1. Carson, R. 2002. *Silent Spring*. Houghton Mifflin Harcourt.
2. Gadgil, M., & Guha, R. 1993. *This Fissured Land: An Ecological History of India*. Univ. of California Press.
3. Gleeson, B. and Low, N. (eds.) 1999. *Global Ethics and Environment*, London, Routledge.
4. Gleick, P.H. 1993. *Water in Crisis*. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
5. Groom, Martha J. Gary K. Meffe, and Carl Ronald Carroll. *Principles of Conservation Biology*. Sunderland: Sinauer Associates, 2006.
6. Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalaya dams. *Science*, 339: 36-37.
7. McCully, P. 1996. *Rivers no more: the environmental effects of dams* (pp. 29-64). Zed Books.
8. McNeil, John R. 2000. *Something New Under the Sun: An Environmental History of the Twentieth Century*.
9. Odum, E.P., Odum, h.T. & Andrews, J. 1971. *Fundamentals of Ecology*. Philadelphia: Saunders.
10. Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. *Environmental and Pollution Science*. Academic Press.
11. Rao, M.N. & Datta, A.K. 1987. *Waste Water Treatment*. Oxford and IBH Publishing Co. Pvt. Ltd.
12. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. *Environment*. 8th edition. John Wiley & Sons.
13. Rosencranz, A., Divan, S., & Noble, M.L. 2001. *Environmental law and policy in India*. Tripathi 1992.
14. Sengupta, R. 2003. *Ecology and economics: An approach to sustainable development*. OUP.
15. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. *Ecology, Environmental Science and Conservation*. S. Chand Publishing, New Delhi.
16. Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. *Conservation Biology: Voices from the Tropics*. John Wiley & Sons.
17. Thapar, V. 1998. *Land of the Tiger: A Natural History of the Indian Subcontinent*.
18. Warren, C.E. 1971. *Biology and Water Pollution Control*. WB Saunders.


19. Wilson, E.O. 2006. *The Creation: An appeal to save life on earth*. New York: Norton.
20. World Commission on environment and Development. 1987. *Our Common Future*. Oxford University Press.
21. www.nacwc.nic.in
22. www.opcw.org

Members of Board of Studies

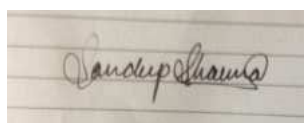
1. Dr. Surender Kumar

2. Dr. Dharamveer Sharma

3. Dr. Major Singh Goraya



4. Dr. Navdeep Singh



5. Mr. Sandeep Sharma

6. Mr. Rakesh Kumar

7. Prof. Tajinder Kaur

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