

# **FACULTY OF COMPUTER SCIENCE & IT**

## **SYLLABUS**

**of**

**Bachelor of Computer Applications**

**(Semester - I & II)**

**(Under Continuous Evaluation System)**

**(12+3 System of Education)**

**Session: 2018-19**



**The Heritage Institution**

**KANYA MAHA VIDYALAYA  
JALANDHAR  
(Autonomous)**

## **PROGRAMME SPECIFIC OUTCOMES**

### **Bachelor of Computer Applications (Session 2018-19)**

PSO1: Provide expertise in field of Information Technology, different software and web development languages for solution of IT-based problems.

PSO2: Professional development in IT industry through ethical, defined and innovative techniques.

PSO3: Achieve leadership role and can work on multidisciplinary group as a team player.

**Scheme of Studies and Examination**  
**(Session 2018-19)**  
**Bachelor of Computer Applications**  
**SEMESTER – I**

Course Code	Course Name	Course Type	Marks				Examination Time (in Hours)
			Total	Ext.		CA	
				L	P		
BCAL-1421 / BCAL-1031/ BCAL-1431	Punjabi (Compulsory) / Basic Punjabi/ Punjab History & Culture	C	50	40	-	10	3
BCAL-1102	Communication Skills in English	C	50	40	-	10	3
BCAL-1113	Introduction to Programming – C	C	75	60	-	15	3
BCAL-1114	Introduction to Computers and Information Technology	C	75	60	-	15	3
BCAL-1335	Applied & Discrete Mathematics	C	75	60	-	15	3
BCAP-1116	Practical–I (MS Office 2010 and Basic C Programming)	C	75	-	60	15	3
AECD-1161	* Drug Abuse: Problem, Management and Prevention (Compulsory)	AECC	50	40	-	10	3
SECF-1492	* Foundation Programme	VBCC	25	20	-	05	2
	Total		400				

**Note:**

**\*Marks of these papers will not be added in total marks.**

**Scheme of Studies and Examination**  
**(Session 2018-19)**  
**Bachelor of Computer Applications**  
**SEMESTER – II**

Course Code	Course Name	Course Type	Marks				Examination Time (in Hours)
			Total	Ext.		CA	
				L	P		
BCAL-2421 / BCAL-2031/ BCAL-2431	Punjabi (Compulsory) / **Basic Punjabi / **Punjab History & Culture	C	50	40	-	10	3
BCAM-2102	Communication Skills in English	C	50	25	15	10	3 + 3
BCAL-2113	Introduction to Programming – C ++	C	75	60	-	15	3
BCAL-2114	Principles of Digital Electronics	C	75	60	-	15	3
BCAL-2115	Numerical Methods & Statistical Techniques	C	75	60	-	15	3
BCAP-2116	Practical – I (Advanced C++ Programming)	C	75	-	60	15	3
AECD-2161	* Drug Abuse: Problem, Management and Prevention (Compulsory)	AECC	50	40	-	10	3
SECM-2502	* Moral Education Programme	VBCC	25	20	-	05	1
	Total		400				

**Note:**

**\*Marks of these papers will not be added in total marks.**

**\*\* Special paper in lieu of Punjabi (Comp.)**

**VBCC: Value Based Compulsory Courses**

**AECC: Ability Enhancement Compulsory Course**

**C: Compulsory**

*Bachelor of Computer Applications (Semester – I)*

**(Session 2018-19)**

**Course Code: BCAL-1421**

**PUNJABI (COMPULSORY)**

### **Course Outcomes :**

ਆਤਮ ਅਨਾਤਮ ਪੁਸਤਕ ਦੇ ਕਵਿਤਾ ਭਾਗ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਵਿਤਾ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਤਾਂ ਕਿ ਉਹ ਆਧੁਨਿਕ ਦੌਰ ਵਿਚ ਚੱਲ ਰਹੀਆਂ ਕਾਵਿ ਧਾਰਾਵਾਂ ਅਤੇ ਕਵੀਆਂ ਬਾਰੇ ਗਿਆਨ ਹਾਸਿਲ ਕਰ ਸਕਣ। ਇਸ ਦਾ ਹੋਰ ਮਨੋਰਥ ਕਵਿਤਾ ਦੀ ਵਿਆਖਿਆ, ਵਿਸ਼ਲੇਸ਼ਣ ਤੇ ਮੁਲੰਕਣ ਦੀ ਪ੍ਰਕਿਰਿਆ ਤੋਂ ਜਾਣੂ ਕਰਾਉਣਾ ਵੀ ਹੈ ਤਾਂ ਕਿ ਉਹ ਸਮਕਾਲੀ ਸਮਾਜ ਦੀਆਂ ਸਮੱਸਿਆਵਾਂ ਨੂੰ ਸਮਝ ਸਕਣ ਅਤੇ ਆਲੋਚਨਾਤਮਕ ਦ੍ਰਿਸ਼ਟੀ ਬਣਾ ਸਕਣ।

- **ਇਤਿਹਾਸਕ ਯਾਦਾਂ** (ਇਤਿਹਾਸਕ ਲੇਖ ਸੰਗ੍ਰਹਿ) ਪੁਸਤਕ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਮੁੱਲਵਾਨ ਇਤਿਹਾਸ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣਾ ਹੈ।
- ਪੈਰ੍ਹਾ ਰਚਨਾ ਅਤੇ ਪੈਰ੍ਹਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ ਦੇਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।
- ਧੁਨੀ ਵਿਉਂਤ ਪੜ੍ਹਣ ਨਾਲ ਵਿਦਿਆਰਥੀ ਧੁਨੀਆਂ ਦੀ ਉਚਾਰਨ ਪ੍ਰਣਾਲੀ ਤੋਂ ਵਾਕਫ਼ ਹੋਣਗੇ।
- ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਦਾ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ - ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

*Bachelor of Computer Applications (Semester – I)*

**(Session 2018-19)**

**Course Code: BCAL–1421**

**PUNJABI (COMPULSORY)**

**Max. Marks: 50**

**Time: 3 Hrs**

**Theory:40**

**CA:10**

**Pass Percentage: 35%**

**ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ**

1. ਪ੍ਰਸ਼ਨ ਪਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਭਾਗ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 08 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅਗੋਂ ਵਧ ਤੋਂ ਵਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

**ਪਾਠ ਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ**

**ਸੈਕਸ਼ਨ-ਏ**

**ਆਤਮ ਅਨਾਤਮ** (ਕਵਿਤਾ ਭਾਗ),(ਸੰਪ. ਸੁਹਿੰਦਰ ਬੀਰ ਅਤੇ ਵਰਿਆਮ ਸਿੰਘ ਸੰਧੂ) ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

(ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ, ਸਾਰ)

08 ਅੰਕ

**ਸੈਕਸ਼ਨ-ਬੀ**

**ਇਤਿਹਾਸਕ ਯਾਦਾਂ** (ਇਤਿਹਾਸਕ ਲੇਖ ਸੰਗ੍ਰਹਿ) ਸੰਪਾ. ਸ.ਸ.ਅਮੋਲ,ਪੰਜਾਬੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਲੁਧਿਆਣਾ। (ਲੇਖ 1 ਤੋਂ 6)

(ਨਿਬੰਧ ਦਾ ਸਾਰ, ਲਿਖਣ-ਸ਼ੈਲੀ)

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ਸੈਕਸ਼ਨ-ਸੀ

(ੳ) ਪੈਰੂਾ ਰਚਨਾ

(ਅ) ਪੈਰੂਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ।

08 ਅੰਕ

ਸੈਕਸ਼ਨ-ਡੀ

(ੳ) ਪੰਜਾਬੀ ਧੁਨੀ ਵਿਉਂਤ : ਉਚਾਰਨ ਅੰਗ, ਉਚਾਰਨ ਸਥਾਨ ਤੇ ਵਿਧੀਆਂ, ਸਵਰ, ਵਿਅੰਜਨ, ਸੁਰ-ਪ੍ਰਬੰਧ ।

(ਅ) ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ : ਭਾਸ਼ਾ ਦਾ ਟਕਸਾਲੀ ਰੂਪ, ਭਾਸ਼ਾ ਅਤੇ ਉਪਭਾਸ਼ਾ ਦਾ ਅੰਤਰ, ਪੰਜਾਬੀ ਉਪਭਾਸ਼ਾਵਾਂ ਦੇ ਪਛਾਣ ਚਿੰਨ੍ਹ।

08 ਅੰਕ

*Bachelor of Computer Applications (Semester – I)*

**(Session 2018-19)**

**Course Code: BCAL - 1031**

**Basic Punjabi**

**Course Outcomes:**

- ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਨੂੰ ਸਿਖਾਉਣ ਦੀ ਪ੍ਰਕਿਰਿਆ ਵਿਚ ਪਾ ਕੇ ਇਕ ਹੋਰ ਭਾਸ਼ਾ ਸਿੱਖਣ ਦੇ ਮੌਕੇ ਪ੍ਰਦਾਨ ਕਰਨਾ ਹੈ।
- ਇਸ ਵਿਚ ਵਿਦਿਆਰਥੀ ਨੂੰ ਬਾਰੀਕਬੀਨੀ ਨਾਲ ਭਾਸ਼ਾ ਦਾ ਅਧਿਐਨ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।
- ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ ਤੋਂ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।
- ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ ਬਾਰੇ ਦੱਸਣਾ ਹੈ।
- ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਸ਼ਬਦ ਘੇਰਾ ਵਿਸ਼ਾਲ ਕਰਨਾ ਹੈ।
- ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਵਿਚ ਹਫਤੇ ਦੇ ਸਤ ਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰਾਂ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਰੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕ ਤੋਂ ਸੌ ਤਕ ਗਿਣਤੀ ਸ਼ਬਦਾਂ ਵਿਚ ਸਿਖਾਉਣਾ ਹੈ।



*Bachelor of Computer Applications (Semester – I)*  
(Session 2018-19)

**Course Code: BCAL - 1031**

**Basic Punjabi**

**Max. Marks: 50**

**Time: 3 Hrs**

**Theory: 40**

**CA: 10**

**Pass Percentage: 35%**

**ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ**

1. ਪ੍ਰਸ਼ਨ ਪਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਭਾਗ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਅੱਠ ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅਗੋਂ ਵਧ ਤੋਂ ਵਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

**ਪਾਠ ਕ੍ਰਮ**

**ਸੈਕਸ਼ਨ ਏ**

ਪੈਂਤੀ ਅਖਰੀ, ਅਖਰ ਕ੍ਰਮ, ਪੈਰ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣ ਅਤੇ ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣ ਅਤੇ ਮਾਤ੍ਰਵਾਂ (ਮੁਢਲੀ ਜਾਣ ਪਛਾਣ) ਲਗਾਖਰ (ਬਿੰਦੀ, ਟਿਪੀ, ਅਧਕ) : ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ ।  
08ਅੰਕ

**ਸੈਕਸ਼ਨ ਬੀ**

ਪੰਜਾਬੀ ਸ਼ਬਦ ਬਣਤਰ : ਮੁਢਲੀ ਜਾਣ ਪਛਾਣ (ਸਾਧਾਰਨ ਸ਼ਬਦ, ਸੰਯੁਕਤ ਸ਼ਬਦ, ਮਿਸ਼ਰਤ ਸ਼ਬਦ, ਮੂਲ ਸ਼ਬਦ, ਅਗੇਤਰ ਅਤੇ ਪਿਛੇਤਰ) 08ਅੰਕ

**ਸੈਕਸ਼ਨ ਸੀ**

ਨਿਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ : ਬਾਜ਼ਾਰ, ਵਪਾਰ, ਰਿਸ਼ਤੇਨਾਤੇ, ਖੇਤੀ ਅਤੇ ਹੋਰ ਧੰਦਿਆਂ  
ਆਦਿ ਨਾਲ ਸੰਬੰਧਤ।

08 ਅੰਕ

### ਸੈਕਸ਼ਨ ਡੀ

ਹਫ਼ਤੇ ਦੇ ਸਤ ਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰਾਂ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਰੁਤਾਂ ਦੇ ਨਾਂ, ਇਕ ਤੋਂ ਸੌ ਤਕ ਗਿਣਤੀ  
ਸ਼ਬਦਾਂ ਵਿਚ ।

08ਅੰਕ

*Bachelor of Computer Applications (Semester – I)*

**(Session 2018-19)**

**COURSE CODE :BCAL–1431**

**PUNJAB HISTORY AND CULTURE**

**COURSE OUTCOMES**

After completing Semester I and course on Punjab History and Culture Students of History will be able to identify a complete grasp on the sources & writings of Ancient Indian History of Punjab.

1. Identify and describe the emergence of earliest civilizations in : Indus Valley Civilization and Aryan Societies.
2. Identify and analyse the Buddhist, Jain and Hindu faith in the Punjab
3. Analyse the emergence of Early Aryans and Later Vedic Period, their Society, Culture, Polity and Economy
4. To make students understand the concepts of two faiths Jainism and Buddhism, its principles and their application in present times

*Bachelor of Computer Applications (Semester – I)*  
**(Session 2018-19)**

**COURSE CODE :BCAL–1431**  
**PUNJAB HISTORY & CULTURE (From Earliest Times to C 320)**  
**(Special Paper in lieu of Punjabi compulsory)**

**Time: 3 Hours**

**Max. Marks: 50**

**Theory: 40**

**CA: 10**

**Instructions for the Paper Setters**

**Question paper shall consist of four Units. Candidates shall attempt 5 questions in all, by at least selecting One Question from each section and the 5<sup>th</sup> question may be attempted from any of the four sections. Each question will carry 8 marks.**

**Unit A**

1. Physical features of the Punjab and impact on history.
2. Sources of the ancient history of Punjab

**Unit- B**

3. Harappan Civilization: Town planning; social, economic and religious life of the India Valley People.
4. The Indo-Aryans: Original home and settlement in Punjab.

**Section C**

5. Social, Religious and Economic life during later *Rig* Vedic Age.
6. Social, Religious and Economic life during later Vedic Age.

**Section D**

7. Teaching and impact of Buddhism
8. Jainism in the Punjab

**Suggested Readings**

1. L. Joshi (ed): *History and Culture of the Punjab*, Art-I, Patiala, 1989 (3<sup>rd</sup> edition)
2. L.M. Joshi and Fauja Singh (ed); *History of Punjab* , Vol.I, Patiala 1977.
3. Budha Parkash : *Glimpses of Ancient Punjab*, Patiala, 1983.
4. B.N. Sharma: *Life in Northern India*, Delhi. 1966.

*Bachelor of Computer Applications (Semester – I)*  
**(Session 2018-19)**  
**COURSE CODE :BCAL–1102**  
**COMMUNICATION SKILL IN ENGLISH – I**

**Course Outcomes:**

After passing this course the student will develop the following Skills:

**CO 1:** Reading skills that will facilitate them to become an efficient reader.

**CO 2:** The ability to realise not only language productivity but also the pleasure of being able to articulate well.

**CO 3:** The power to analyse, interpret and infer the ideas in the text.

**CO 4:** The ability to have a comprehensive understanding of the ideas in the text and enhance their critical thinking.

**CO 5:** Writing skills of students which will make them proficient enough to express ideas in clear and grammatically correct English.

**CO 6:** Ability to plan, organise and present ideas coherently on a given topic.

**CO 7:** The skill to use an appropriate style and format in writing letters (formal and informal.)

*Bachelor of Computer Applications (Semester – I)*  
**(Session 2018-19)**  
**COURSE CODE :BCAL–1102**  
**COMMUNICATION SKILL IN ENGLISH – I**

**Time: 3 Hours**

**Max. Marks: 50**  
**Theory: 40 Marks**  
**CA: 10 Marks**

**Instructions for the paper setter and distribution of marks:**

**The question paper will consist of four sections and distribution of marks will be as under:**

**Section-A:** The question of theoretical nature will be set from Unit I of the syllabus with internal choice and it will consist of 8 marks.

**Section-B:** Two comprehension passages will be given to the students based on the Unit II and the candidates will have to attempt one carrying 8 marks.

**Section-C:** Two questions will be given based on the topics given in the Unit III and the candidates will have to attempt one carrying 8 marks.

**Section-D:** One out of the two questions will have to be attempted by the candidates based on the topics given in Unit IV of the syllabus. It will carry 8 marks.

**Important Note:**

**The candidate will have to attempt five questions in all selecting one from each section of the question paper and the fifth question may be attempted from any of the four sections.**

**(8 x 5 = 40)**

**The syllabus is divided in four units as mentioned below:**

**Unit I**

**Reading Skills:** Reading Tactics and strategies; Reading purposes–kinds of purposes and associated comprehension; Reading for direct meanings.

**Unit II**

Reading for understanding concepts, details, coherence, logical progression and meanings of phrases/ expressions.

**Activities:**

- Comprehension questions in multiple choice format

- Short comprehension questions based on content and development of ideas

### **Unit III**

**Writing Skills:** Guidelines for effective writing; writing styles for application, personal letter, official/ business letter.

#### **Activities**

- Formatting personal and business letters.
- Organising the details in a sequential order

### **Unit IV**

Resume, memo, notices etc.; outline and revision.

#### **Activities:**

- Converting a biographical note into a sequenced resume or vice-versa
- Ordering and sub-dividing the contents while making notes.
- Writing notices for circulation/ boards

#### **Recommended Books:**

1. *Oxford Guide to Effective Writing and Speaking* by John Seely.
2. *Business Communication*, by Sinha, K.K. Galgotia Publishers, 2003.
3. *Business Communication* by Sethi, A and Adhikari, B., McGraw Hill Education 2009.
4. *Communication Skills* by Raman, M. & S. Sharma, OUP, New Delhi, India (2011).
5. *English Grammar in Use: A Self Study Reference and Practice Book Intermediate Learners Book* by Raymond Murphy, Cambridge University Press.

*Bachelor of Computer Applications (Semester – I)*  
**(Session 2018-19)**

**COURSE CODE:BCAL–1113**  
**INTRODUCTION TO PROGRAMMING – C**

**Course Outcome:**

After passing course the student will be able to:

CO1: Understand formulation of algorithms and flowcharts for problem solution and different programming constructs.

CO2: Have knowledge of execution flow of a C program for programming and maintenance.

CO3: Apply programming concepts to provide solution in different problem domains.



*Bachelor of Computer Applications (Semester – I)*  
**(Session 2018-19)**

**COURSE CODE: BCAL–1113**  
**INTRODUCTION TO PROGRAMMING – C**

**Max. Marks: 75**

**Theory: 60**

**CA: 15**

**Pass % = 35%**

Time: 3 Hrs

**Instructions for Paper Setter -**

Eight questions of equal marks are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section

**UNIT I**

**Fundamentals:** Character set, Identifiers and Key Words, Data types, Constants, Variables, Expressions, Statements, Symbolic Constants.

**Operations and Expressions:** Arithmetic operators, Unary operators, Relational Operators, Logical Operators, Assignment and Conditional Operators, Library functions. Data Input and Output statements

**UNIT II**

**Control Statements:** Preliminaries, While, Do-while and For statements, Nested loops, If-else, Switch, Break – Continue statements.

**Program Structure Storage Class:** Automatic, external and static variables, multiple programs, more about library functions.

**UNIT III**

**Functions:** Brief overview, defining, accessing functions, passing arguments to function, specifying argument data types, function prototypes, recursion.

**Arrays:** Defining, processing an array, passing arrays to a function, multi-dimensional arrays.

**Strings:** String declaration, string functions and string manipulation

**UNIT IV**

**Structures & Unions:** Defining and processing a structure, user defined data types, structures and pointers, passing structures to functions, self referenced structure, unions.

**Pointers:** Fundamentals, pointer declaration, passing pointer to a function, pointer and one dimensional arrays, operation on pointers, pointers & multi-dimensional arrays of pointers, passing functions, other functions, more about pointer declarations.

***References:***

1. Balaguruswamy: "Programming in ANSIC".
2. Scaum Outline Series: "Programming in C".
3. Dennis & Ritchie: "Programming inC".
4. Stephen G. Kochar: "C Programming".

*Bachelor of Computer Applications (Semester – I)*  
**(Session 2018-19)**

**COURSE CODE :BCAL–1114**  
**INTRODUCTION TO COMPUTERS AND INFORMATION  
TECHNOLOGY**

**Course Outcome:**

After passing course the student will be able to:

CO1: Have knowledge of Computer fundamentals, operating system concepts and office automation software.

CO2: Analyze, design and implement solutions to various problems using algorithms, flowcharts, decision tables and pseudo codes.

CO3: Apply office automation software to create professional and academic documents and presentations.

*Bachelor of Computer Applications (Semester – I)*  
**(Session 2018-19)**

**COURSE CODE :BCAL–1114**  
**INTRODUCTION TO COMPUTERS AND INFORMATION**  
**TECHNOLOGY**

**Max. Marks: 75**

**Theory: 60**

**CA: 15**

**Pass % = 35%**

Time: 3 Hrs

**Instructions for Paper Setter -**

Eight questions of equal marks are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section

**UNIT-I**

**Introduction to Computers and its Applications:**

- Computer as a system, basic concepts, functional units and their inter relation.
- Milestones in Hardware and Software.
- Batch oriented / on–line / real time applications.
- Application of computers.

**UNIT-II**

**Interacting with the Computer:**

**Input Devices:** Keyboard, mouse, pens, touch screens, Bar Code reader, joystick, source data automation, (MICR, OMR, OCR), screen assisted data entry: portable / handheld terminals for data collection, vision input systems.

**Output Devices:** Monitor, Serial line page printers, plotters, voice response units.

**UNIT-III**

**Data Storage Devices and Media:** Primary storage (Storage addresses and capacity, type of memory), Secondary storage, Magnetic storage devices and Optical Storage Devices.

**Word Processor using Microsoft Office:** Overview, creating, saving, opening, importing, exporting and inserting files, formatting pages, paragraphs and sections, indents and outdents, creating lists and numbering. Headings, styles, fonts and font size Editing, positioning and viewing texts, Finding and replacing text, inserting page breaks, page numbers, book marks, symbols and dates. Using tabs and tables, header, footer and printing.

#### UNIT-IV

**Presentation Software using Microsoft Office:** Presentation overview, entering information, Presentation creation, opening and saving presentation, inserting audio and video.

**Spreadsheet using Microsoft Office:** Spreadsheet overview, Editing, Formatting, Creating formulas, Graphs.

***Text/References:***

1. Computer Fundamentals – P.K. Sinha.
2. Introduction to Computers – N. Subramanian.
3. Introduction to Computers – Peter Norton Mcgraw Hill.
4. MS–Office \_ BPB Publications.
5. Windows Based Computer Courses Gurvinder Singh & Rachpal Singh, Kalyani Pub.
6. Ebooks at OpenOffice.org
7. A Conceptual Guide to OpenOffice.org3, 2nd Edition, R. Gabriel Gurley

*Bachelor of Computer Applications (Semester – I)*  
**(Session 2018-19)**

**COURSE CODE:BCAL–1335**  
**APPLIED & DISCRETE MATHEMATICS**

**Course Outcome:**

Student will be able to:

CO1: Have knowledge of matrices, sets, relations, propositional logic and Boolean algebra.

CO 2: represents world knowledge in symbolic notation through propositional calculus.

CO 3: Apply discrete mathematical concepts to obtain analytical and numerical solutions.

*Bachelor of Computer Applications (Semester – I)*  
**(Session 2018-19)**

**COURSE CODE: BCAL–1335**  
**APPLIED & DISCRETE MATHEMATICS**

**Max. Marks: 75**

**Theory: 60**

**CA: 15**

**Pass % = 35%**

Time: 3 Hrs

**Instructions for Paper Setter -**

Eight questions of equal marks are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section

**UNIT-I**

**Sets and Relations:** Definition of sets, subsets, complement of a set, universal set, intersection and union of sets, De-Morgan's laws, Cartesian products, Equivalent sets, Countable and uncountable sets, minset, Partitions of sets, Relations: Basic definitions, graphs of relations, properties of relations

**UNIT-II**

**Logic and Propositional Calculus:** Proposition and Compound Propositions, basic Logical Operations, Propositions and Truth Tables, Tautologies and Contradictions, Logical Equivalence, Duality law, Algebra of propositions, Conditional and Bi conditional Statements, Arguments, Logical Implication, Propositional Functions, Predicates and Quantifiers, Negation of Quantified Statements, Inference theory of the predicates calculus.

**UNIT-III**

**Boolean Algebra:** Boolean algebra and its duality, Duality, Boolean Algebra as Lattices, Boolean identities, sub-algebra, Representation Theorem, Sum-of-Products Form for Sets, Sum - of-Products Form for Boolean Algebra, Minimal Boolean Expressions, Prime Implicants, Boolean Functions, Karnaugh Maps.

**UNIT IV**

**Matrices:** Introduction of a Matrix, its different kinds, matrix addition and scalar multiplication, multiplication of matrices, transpose etc. Square matrices, inverse and rank of a square matrix, Matrix Inversion method.

***References:***

1. Lipschutz, S. and Lipson, M.: Discrete Mathematics (Schaum's outlines Series).
2. Kolman and Busby "Discrete Mathematical structures for Computer Sciences" PHI.
3. Alan Doerr,"Applied Discrete Structures for Computer Science", Galgotia Publications.
4. Trambley, J.P. and Manohar,R: Discrete Mathematical Structures with Applications to Computer Science.



*Bachelor of Computer Applications (Semester – I)*  
**(Session 2018-19)**

**COURSE CODE :BCAP–1116**

**Practical – I (MS Office 2010 & Basic C Programming)**

**Max. Marks: 75**

**Practical: 60**

**CA: 15**

**Pass % = 35%**

Time: 3 Hrs

**Operational Knowledge of:**

1. C Programming
2. Windows Based Operating System
3. MS – OFFICE (Word and Power Point)

*Bachelor of Computer Applications (Semester – I)*  
**(Session 2018-19)**

**COURSE CODE :AECD-1161**  
**DRUG ABUSE: PROBLEM, MANAGEMENT AND PREVENTION**  
**(COMPULSORY PAPER)**  
**Problem of Drug Abuse**

**Time: 3 Hrs**

**Max. Marks: 50**

**Theory: 40**

**CA: 10**

**Instructions for the Paper Setter**

Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section.

**UNIT-I**

**1) Meaning of Drug Abuse:** Meaning, Nature and Extent of Drug Abuse in India and Punjab.

**UNIT-II**

**2) Consequences of Drug Abuse for:**

Individual : Education, Employment, Income.

Family : Violence.

Society : Crime

Nation : Law and Order problem.

**UNIT-III**

**3) Management of Drug Abuse**

Medical management : medication for treatment and to withdrawal effects.

**UNIT-IV**

**4) Psychiatric Management:** Counselling, Behavioural and Cognitive therapy.

Social Management: Family, Group therapy and Environmental Intervention.

**References:**

1. Ahuja, Ram (2003), *Social Problems in India*, Rawat Publication, Jaipur.
2. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.
3. Inciardi, J.A. 1981. *The Drug Crime Connection*. Beverly Hills: Sage Publications.
4. Kapoor. T. (1985) *Drug epidemic among Indian Youth*, New Delhi: Mittal Pub.
5. Modi, Ishwar and Modi, Shalini (1997) *Drugs: Addiction and Prevention*, Jaipur: Rawat Publication.

6. National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.
7. Sain, Bhim 1991, *Drug Addiction Alcoholism*, Smoking obscenity New Delhi: Mittal Publications.
8. Sandhu, Ranvinder Singh, 2009, *Drug Addiction in Punjab: A Sociological Study*. Amritsar: Guru Nanak Dev University.
9. Singh, Chandra Paul 2000. *Alcohol and Dependence among Industrial Workers*: Delhi: Shipra.
10. Sussman, S and Ames, S.L. (2008). *Drug Abuse: Concepts, Prevention and Cessation*, Cambridge University Press.

*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**

**COURSE CODE :BCAL–2421**  
**PUNJABI (COMPULSORY)**

**Course Outcomes:**

- ਆਤਮ ਅਨਾਤਮ ਪੁਸਤਕ ਦੇ ਕਹਾਣੀ ਭਾਗ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਹਾਣੀ ਨੂੰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਕਹਾਣੀ ਜਗਤ ਨਾਲ ਜੋੜਣਾ ਹੈ।
- ਇਤਿਹਾਸਕ ਯਾਦਾਂ (ਇਤਿਹਾਸਕ ਲੇਖ ਸੰਗ੍ਰਹਿ) ਪੁਸਤਕ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਮੁੱਲਵਾਨ ਇਤਿਹਾਸ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣਾ ਹੈ।
- ਸੰਖੇਪ ਰਚਨਾ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਮੇਂ ਅਤੇ ਮਿਹਨਤ ਦੀ ਬੱਚਤ ਕਰਨ ਬਾਰੇ ਦੱਸਣਾ ਹੈ।
- ਪੈਰਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ ਦੇਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।
- ਸ਼ਬਦ ਬਣਤਰ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ ਪੜ੍ਹਣ ਨਾਲ ਵਿਦਿਆਰਥੀ ਇਸਦੇ ਮੁੱਢਲੇ ਸੰਕਲਪਾਂ ਨੂੰ ਆਧਾਰ ਬਣਾ ਕੇ ਇਹਨਾਂ ਸੰਕਲਪਾਂ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ ।
- ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਦਾ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ - ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।
- ਅਖਾਣ ਅਤੇ ਮੁਹਾਵਰਿਆਂ ਦੀ ਵਰਤੋਂ ਨਾਲ ਗੱਲਬਾਤ ਵਿਚ ਪਰਪੱਕਤਾ ਆਉਂਦੀ ਹੈ। ਇਹ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਗੱਲਬਾਤ ਵਿਚ ਨਿਖਾਰ ਲਿਆਉਣ ਦਾ ਕੰਮ ਕਰਨਗੇ।

*Bachelor of Computer Applications (Semester – II)*  
(Session 2018-19)

**COURSE CODE :BCAL–2421**  
**PUNJABI (COMPULSORY)**

**Max. Marks: 50**

**Time: 3 Hrs**

**Theory: 40**

**CA:10**

**Pass Percentage 35%**

**ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ**

1. ਪ੍ਰਸ਼ਨ ਪਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਭਾਗ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 08 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅਗੋਂ ਵਧ ਤੋਂ ਵਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

**ਪਾਠ ਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ**

**ਸੈਕਸ਼ਨ-ਏ**

**ਆਤਮ ਅਨਾਤਮ** (ਕਹਾਣੀ ਭਾਗ), (ਸੰਪ. ਸੁਹਿੰਦਰ ਬੀਰ ਅਤੇ ਵਰਿਆਮ ਸਿੰਘ ਸੰਧੂ)

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

(ਵਿਸ਼ਾ-ਵਸਤੂ, ਪਾਤਰ ਚਿਤਰਨ)

08 ਅੰਕ

**ਸੈਕਸ਼ਨ-ਬੀ**

**ਇਤਿਹਾਸਕ ਯਾਦਾਂ** (ਇਤਿਹਾਸਕ ਲੇਖ ਸੰਗ੍ਰਹਿ) ਸੰਪਾ. ਸ.ਸ.ਅਮੋਲ, ਪੰਜਾਬੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ,

ਲੁਧਿਆਣਾ। (ਲੇਖ 7 ਤੋਂ 12) (ਸਾਰ, ਲਿਖਣ ਸ਼ੈਲੀ)

08 ਅੰਕ

**ਸੈਕਸ਼ਨ-ਸੀ**

(ੳ) ਸ਼ਬਦ ਬਣਤਰ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ : ਪਰਿਭਾਸ਼ਾ, ਮੁਢਲੇ ਸੰਕਲਪ

(ਅ) ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ

08 ਅੰਕ

ਸੈਕਸ਼ਨ-ਡੀ

(ੳ) ਸੰਖੇਪ ਰਚਨਾ

(ਅ) ਮੁਹਾਵਰੇ ਅਤੇ ਅਖਾਣ

08 ਅੰਕ

*Bachelor of Computer Applications (Semester – II)*

**(Session 2018-19)**

**COURSE CODE :BCAL–2031**

**Basic Punjabi**

### **Course outcomes :**

ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਨੂੰ ਸਿਖਾਉਣ ਦੀ ਪ੍ਰਕਿਰਿਆ ਵਿਚ ਪਾ ਕੇ ਇਕ ਹੋਰ ਭਾਸ਼ਾ ਸਿੱਖਣ ਦੇ ਮੌਕੇ ਪ੍ਰਦਾਨ ਕਰਨਾ ਹੈ।

- ਇਸ ਵਿਚ ਵਿਦਿਆਰਥੀ ਨੂੰ ਬਾਰੀਕਬੀਨੀ ਨਾਲ ਭਾਸ਼ਾ ਦਾ ਅਧਿਐਨ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।
- ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ ਤੋਂ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।
- ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਦਾ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ - ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।
- ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਸ਼ਬਦ ਘੇਰਾ ਵਿਸ਼ਾਲ ਕਰਨਾ ਹੈ।
- ਵਿਦਿਆਰਥੀ ਵਾਕ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਇਸਦੀ ਬਣਤਰ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ ਅਤੇ ਭਾਸ਼ਾ ਤੇ ਪਕੜ ਮਜ਼ਬੂਤ ਹੋਵੇਗੀ।
- ਪੈਰਾ ਰਚਨਾ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨ੍ਹਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।
- ਸੰਖੇਪ ਰਚਨਾ ਕਰਨ ਨਾਲ ਵਿਦਿਆਰਥੀ ਆਪਣੀ ਗੱਲ ਨੂੰ ਸੰਖੇਪ ਵਿਚ ਕਹਿਣ ਦੀ ਜਾਚ ਸਿੱਖਣਗੇ ਅਤੇ ਇਹ ਦਿਮਾਗੀ ਕਸਰਤ ਵਿਚ ਸਹਾਈ ਹੋਵੇਗੀ।
- ਘਰੇਲੂ ਅਤੇ ਦਫਤਰੀ ਚਿੱਠੀ ਪੱਤਰ ਲਿਖਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਇਸ ਕਲਾ ਵਿਚ ਨਿਪੁੰਨ ਕਰਨਾ ਹੈ।
- ਅਖਾਣ ਅਤੇ ਮੁਹਾਵਰਿਆਂ ਦੀ ਵਰਤੋਂ ਨਾਲ ਗੱਲਬਾਤ ਵਿਚ ਪਰਪੱਕਤਾ ਆਉਂਦੀ ਹੈ। ਇਹ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਗੱਲਬਾਤ ਵਿਚ ਨਿਖਾਰ ਲਿਆਉਣ ਦਾ ਕੰਮ ਕਰਨਗੇ।

*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**  
**COURSE CODE :BCAL–2031**  
**Basic Punjabi**

**Max. Marks: 50**

**Time: 3 Hrs**

**Theory:40**

**CA:10**

**Pass Percentage 35%**

**ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ**

1. ਪ੍ਰਸ਼ਨ ਪਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਭਾਗ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 08 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅਗੋਂ ਵਧ ਤੋਂ ਵਧ ਚਾਰ ਉਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

**ਪਾਠ ਕ੍ਰਮ ਣਧ**

**ਸੈਕਸ਼ਨ ਏ**

ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ : ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ (ਨਾਂਵ, ਪੜਨਾਂਵ, ਕਿਰਿਆ, ਵਿਸ਼ੇਸ਼ਣ, ਕਿਰਿਆ ਵਿਸ਼ੇਸ਼ਣ, ਸਬੰਧਕ, ਯੋਜਕ ਅਤੇ ਵਿਸਮਿਕ)

08 ਅੰਕ

**ਸੈਕਸ਼ਨ ਬੀ**

ਪੰਜਾਬੀ ਵਾਕ ਬਣਤਰ : ਮੁਢਲੀ ਜਾਣ ਪਛਾਣ

(ੳ) ਸਾਧਾਰਨ ਵਾਕ, ਸੰਯੁਕਤ ਵਾਕ ਅਤੇ ਮਿਸ਼ਰਤ ਵਾਕ (ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ)

(ਅ) ਬਿਆਨੀਆ ਵਾਕ, ਪ੍ਰਸ਼ਨਵਾਚਕ ਵਾਕ ਅਤੇ ਹੁਕਮੀ ਵਾਕ (ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ)



08 ਅੰਕ

**ਸੈਕਸ਼ਨ ਸੀ**

ਪੈਰੂਾ ਰਚਨਾ

ਸੰਖੇਪ ਰਚਨਾ

08 ਅੰਕ

**ਸੈਕਸ਼ਨ ਡੀ**

ਚਿਠੀ ਪਤਰ (ਘਰੇਲੂ ਅਤੇ ਦਫ਼ਤਰੀ)

ਅਖਾਣ ਅਤੇ ਮੁਹਾਵਰੇ

08 ਅੰਕ

*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**

**COURSE CODE :BCAL–2431**  
**PUNJAB HISTORY AND CULTURE**

**COURSE OUTCOMES**

After completing Semester II and course on Ancient History of Punjab, Students of History will be able to identify a complete grasp on the sources & writings of Ancient History of Punjab

1. Analyse the emergence of Mauryan, Gupta empires during the classical age in India
2. To understand the various factors leading to rise and fall of empires and emergence of new dynasties and their Culture, society, administration , polity and religion specifically of Kushans and Vardhanas in the Punjab
3. Students will be adopt in constructing original historical argument based on primary source material research
4. To have grasp on the existing Literature of this period and understand the past developments in the light of present scenario.
5. To enable students to have thorough insight into the various forms/styles of Architecture and synthesis of Indo - Muslim Art and Architecture in Punjab

*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**

**COURSE CODE :BCAL–2431**

**PUNJAB HISTORY AND CULTURE (C 321 to 1000 A.D.)**

**(Special Paper in lieu of Punjabi compulsory)**

**Time: 3 Hours**

**Max. Marks: 50**

**Theory: 40**

**CA: 10**

**Instructions for the Paper Setters**

**Question paper shall consist of four Units. Candidates shall attempt 5 questions in all, by at least selecting One Question from each unit and the 5<sup>th</sup> question may be attempted from any of the four sections. Each question will carry 8 marks.**

**Unit-I**

1. Punjab under Chandragupta Maurya and Ashoka.
2. The Kushans and their Contribution to the Punjab.

**Unit -II**

3. The Panjab under the Gurpta Emperor.
4. The Punjab under the Vardhana Emperors

**Unit-III**

5. Political Developments 17<sup>th</sup> Century to 1000 A.D. (Survey of Political)
6. Socio-cultural History of Punjab from 7<sup>th</sup> to 1000 A.D.

**Unit -IV**

7. Development of languages and Literature.
8. Development of art & Architecture

**Suggested Readings**

1. L. Joshi (ed): *History and Culture of the Punjab*, Art-I, Patiala, 1989 (3<sup>rd</sup> edition)
2. L.M. Joshi and Fauja Singh (ed); *History of Punjab* , Vol.I, Patiala 1977.
3. Budha Parkash : *Glimpses of Ancient Punjab*, Patiala, 1983.
4. B.N. Sharma: *Life in Northern India*, Delhi. 1966.

*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**

**COURSE CODE :BCAM–2102**  
**COMMUNICATION SKILLS IN ENGLISH – II**

**Course Outcomes:**

After passing this course the students will develop the following skills:

- CO 1:** Enhancement of listening skills with the help of listening exercises based on conversation, news and TV reports.
- CO 2:** Improvement of speaking skills enabling them to converse in a specific situation.
- CO 3:** Acquisition of knowledge of phonetics which will help them in learning about correct pronunciation as well as effective speaking.
- CO 4:** The capability to present themselves well in a job interview.
- CO 5:** The ability of Note-Taking to be able to distinguish the main points from the supporting details and the irrelevant information from the relevant one.
- CO 6:** Speaking skills of the students enabling them to take active part in group discussion and present their own ideas.
- CO 7:** The capability of narrating events and incidents in a logical sequence.

*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**

**COURSE CODE :BCAM–2102**  
**COMMUNICATION SKILLS IN ENGLISH – II**

**Time: 3 hours (Theory)**  
**3 hours (Practical)**

**Max. Marks: 50**  
**Theory: 25 Marks**  
**Practical: 15 Marks**  
**CA: 10 Marks**

**Instructions for the paper setters and distribution of marks:**

**The question paper will consist of four sections and distribution of marks will be as under:**

**Section-A:** Two questions with internal choice will be set from Unit I of the syllabus and these questions will be theoretical in nature corresponding to the syllabus of Section-I. Each will carry 5 marks.

**Section-B:** Two questions with internal choice will be set from Unit II of the syllabus. One will be theoretical and the second will be practical in nature. Each will carry 5 marks.

**Section-C:** Two questions with internal choice will be set from Unit III of the syllabus and these will be theoretical in nature. Each will carry 5 marks.

**Section-D:** Two questions with internal choice will be set from Unit IV of the syllabus. One question will be theoretical in nature and the other will be practical in nature (based on phonetic transcription and stress). Each will carry 5 marks.

**Important Note:**

**The candidate will have to attempt five questions in all selecting one from each section of the question paper and the fifth question may be attempted from any of the four sections.**  
**(5 x 5 = 25)**

**PRACTICAL / ORAL TESTING**

**Time: 3 hours**

**Marks: 15**

**Course Contents:**

1. Oral Presentation with/without audio visual aids.
2. Group Discussion.
3. Listening to any recorded or live material and asking oral questions for listening comprehension.

**Questions:**

1. Oral Presentation will be of 5 to 7 minutes duration. (Topic can be given in advance or it can be of student's own choice). Use of audio visual aids is desirable.
2. Group discussion comprising 8 to 10 students on a familiar topic. Time for each group will be 15 to 20 minutes.

**Note:** Oral test will be conducted by external examiner with the help of internal examiner.

**Course Contents:****Unit I**

**Listening Skills:** Barriers to listening; effective listening skills; feedback skills.

**Activities:** Listening exercises – Listening to conversation, News and TV reports

**Unit II**

Attending telephone calls; note taking and note making.

**Activities:** Taking notes on a speech/lecture

**Unit III**

**Speaking and Conversational Skills:** Components of a meaningful and easy conversation; understanding the cue and making appropriate responses; forms of polite speech; asking and providing information on general topics.

- Activities:**
- 1) Making conversation and taking turns
  - 2) Oral description or explanation of a common object, situation or concept

**Unit IV**

The study of sounds of English, stress

Situation based Conversation in English

Essentials of Spoken English

**Activities:** Giving Interviews

**Recommended Books:**

1. *Oxford Guide to Effective Writing and Speaking* by John Seely.
2. *Business Communication* by Sethi, A and Adhikari, B., McGraw Hill Education 2009.
3. *Communication Skills* by Raman, M. & S. Sharma, OUP, New Delhi, India (2011).
4. *A Course in Phonetics and Spoken English* by J. Sethi and P.V. Dhamija, Phi Learning.

*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**

**COURSE CODE :BCAL–2113**

**INTRODUCTION TO PROGRAMMING - C++**

**Course Outcomes:**

After the completion of this course, a successful student will be able to do the following:

After passing course the student will:

CO1: Have understanding of Object Oriented concepts.

CO2: Apply OOPs concepts to model real world problems for its simplified implementation.



*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**

**COURSE CODE :BCAL–2113**

**INTRODUCTION TO PROGRAMMING - C++**

**Max. Marks: 75**

**Theory: 60**

**CA: 15**

Pass % = 35%

Time: 3 Hrs

**Instructions for Paper Setter -**

Eight questions of equal marks are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section

**UNIT -I**

**Programming Paradigms:** Introduction to the object oriented approach towards programming by discussing Traditional, Structured Programming methodology.

**Objects & Classes:** Object Definition, Instance, Encapsulation, Data Hiding, Abstraction, Inheritance, Messages, Method, Polymorphism, Classes, Candidate& Abstract Classes to be examples of the Design process.

**UNIT -II**

**Object Oriented Programming using C++:** Characteristics of OOP, Overview of C++, I/O using cout and cin, Objects and Classes, Member functions and data, private & public, constructor & destructor, Constructor Overloading, Types of Constructors.

**UNIT -III**

**Function Overloading:** Function Overloading, Default Arguments, Ambiguity in Function Overloading.

**Operator Overloading:** Overloading unary and binary operators, Type Conversion using Operator Overloading

**UNIT-IV**

**Inheritance:** Concept of inheritance, Base & derived classes, Access Specifiers, Class Hierarchies, Types of Inheritance with examples.

**Virtual Functions and Polymorphism:** Virtual functions, friend functions, static function, this pointer, polymorphism, Types of Polymorphism with examples, templates, class templates.

***Books:***

- 1. Teach Yourself C++, Herbert Schildt, Tata McGraw Hill.*
- 2. Designing Object Oriented Software Rebeca Wirfs - Brock Brian Wilerson, PHI.*
- 3. Object Oriented Programming in Turbo C++, Robert Lafore, Galgotia Publication.*
- 4. Designing Object Oriented Applications using C++ &Booch Method, Robert C. Martin.*

*Bachelor of Computer Applications (Semester – II)*

**(Session 2018-19)**

**COURSE CODE :BCAL–2114**

**PRINCIPLES OF DIGITAL ELECTRONICS**

**Course Outcomes:**

After passing the course the student will be able to:

CO1: Have knowledge of number systems, logic gates, combinational and sequential circuits.

CO2: Apply the knowledge to design advanced and complex electronic circuits.

CO3: Demonstrate the internal structure of semiconductor memory.

*Bachelor of Computer Applications (Semester – II)*

**(Session 2018-19)**

**COURSE CODE :BCAL–2114**

**PRINCIPLES OF DIGITAL ELECTRONICS**

**Max. Marks: 75**

**Theory: 60**

**CA: 15**

**Pass % = 35%**

Time: 3 Hrs

**Instructions for Paper Setter -**

Eight questions of equal marks are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section

**UNIT-I**

**Number System:** Introduction, number conversion system , binary arithmetic, representation of signed binary numbers, 1's and 2's complement, Codes: straight binary code, BCD Code Excess3 Code, Grey Code ASCII, Integer and floating point representation

**UNIT- II**

**Logic Gates and Boolean Algebra:** Logic gates, Universal Gates, Boolean algebra and Minimization techniques, canonical forms of Boolean expressions, K-Map

**UNIT-III**

**Combinational Circuits:** Adder, Subtractor, Multiplexer, Demultiplexer, Decoder, Encoder

**Sequential Circuits:** Flip-flops, clocks and timers, registers, counter

**UNIT-IV**

**Semiconductor memories:** Introduction, Static and dynamic devices, read only & random access memory chips, PROMS and EPROMS Address selection logic. Read and write control timing diagrams for ICs

**References:**

1. *Integrated Electronics by Millman, Halkias McGraw Hill.*
2. *Malvino: Digital Computer Electronics, McGraw Hill.*

3. *D.A. Hodges & H.G. Jackson, Analysis and Design of Integrated Circuits, International, 1983.*
4. *Joph. F. Wakerley, Digital Principles and Practices.*
5. *Ujjenbeck, John: Digital Electronics: A Modern Approach, Prentice Hall, 1994.*
6. *Mano, M. Morris: Digital Logic and Computer Design, Edition, 1993.*

*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**

**COURSE CODE :BCAL–2115**

**NUMERICAL METHODS & STATISTICAL TECHNIQUES**

**Course Outcomes:**

After the completion of this course student will be able to :

C01: Gain knowledge about mechanics of elementary methods and statistical inference techniques for numerical analysis.

C02: Demonstrate the application of numerical methods on different platform with the use of programming language.

C03: Apply the knowledge to solve linear and non-linear equations involved in real world problems.

*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**  
**COURSE CODE :BCAL–2115**  
**NUMERICAL METHODS & STATISTICAL TECHNIQUES**

Time: 3 Hrs

**Max. Marks: 75**  
**Theory: 60**  
**CA: 15**  
Pass % = 35%

**Instructions for Paper Setter -**

Eight questions of equal marks are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section

**UNIT-I**

**Introduction:**

1. Numerical Methods, Numerical methods versus numerical analysis, Errors and Measures of Errors.
2. Non-linear Equations, Iterative Solutions, Multiple roots and other difficulties, Interpolation methods, Methods of bi-section, False position method, Newton Raphson – Method.
3. Simultaneous Solution of Equations, Gauss Elimination Method Gauss Jordan Method.

**UNIT-II**

1. Numerical Integration and different Trapezoidal Rule, Simpson's 3/8 Rule.
2. Interpolation and Curve Fitting, Lagrangian Polynomials, Newton's Methods: Forward Difference Method, Backward Difference Method Divided Difference Method.

**UNIT-III**

**Statistical Techniques:**

1. Measure of Central Tendency, Mean Arithmetic, Mean geometric, Mean harmonic, Mean, Median, Mode.
2. Measures of dispersion, Mean deviation, Standard deviation, Co-efficient of variation.
3. Correlation.

## UNIT –IV

1. Least square fit linear trend, Non-linear trend.

$$Y = ax^b$$

$$Y = ab^x$$

$$Y = ae^x$$

Polynomial fit:  $Y = a+bx+cn^2$

### ***Books Recommended:***

1. V. Rajaraman: *Computer Oriented Numerical Methods*, Prentice Hall of India Private Ltd., New Delhi.

2. B.S. Grewal, *Numerical Methods for Engineering*, Sultan Chand Publication.



*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**  
**COURSE CODE :BCAP–2116**  
**Practical–I(Advanced C++ Programming)**

Time: 3 Hrs

**Max. Marks: 75**  
**Theory: 60**  
**CA: 15**  
Pass % = 35%

Implementation of C++ programming.

*Bachelor of Computer Applications (Semester – II)*

**(Session 2018-19)**

**COURSE CODE :AECD–2161**

**DRUG ABUSE: PROBLEM, MANAGEMENT AND PREVENTION**

**(COMPULSORY PAPER)**

**Problem of Drug Abuse**

Course Outcomes:

- CO 1. This information can include factual data about what substance abuse is; warning signs of addiction ; information about how alcohol and specific drugs affect the mind and body;
- CO 2. How to be supportive during the detoxification and rehabilitation process.
- CO 3. Main focus of substance abuse education is teaching individuals about drug and alcohol abuse and how to avoid, stop, or get help for substance use disorders.
- CO 4. Substance abuse education is important for students alike; there are many misconceptions about commonly used legal and illegal substances, such as alcohol and marijuana.

*Bachelor of Computer Applications (Semester – II)*  
**(Session 2018-19)**

**COURSE CODE :AECD–2161**

**DRUG ABUSE: PROBLEM, MANAGEMENT AND PREVENTION**  
**(COMPULSORY PAPER)**

**Problem of Drug Abuse**

**Time: 3 Hrs**

**Max. Marks: 50**

**Theory: 40**

**CA: 10**

**Instructions for the Paper Setter**

Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section.

**UNIT-I**

**Prevention of Drug abuse:** Role of family: Parent child relationship, Family support, Supervision, Shaping values, Active Scrutiny.

**UNIT-II**

**School:** Counselling, Teacher as role-model. Parent-teacher-Health Professional Coordination, Random testing on students.

**UNIT-III**

**Controlling Drug Abuse:** Media: Restraint on advertisements of drugs, advertisements on bad effects of drugs, Publicity and media, Campaigns against drug abuse, Educational and awareness program

**UNIT-IV**

**Legislation:** NDPs act, Statutory warnings, Policing of Borders, Checking Supply/Smuggling of Drugs, Strict enforcement of laws, Time bound trials.

**References:**

1. Ahuja, Ram (2003), *Social Problems in India*, Rawat Publication, Jaipur.
2. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.
3. Inciardi, J.A. 1981. *The Drug Crime Connection*. Beverly Hills: Sage Publications.
4. Kapoor. T. (1985) *Drug epidemic among Indian Youth*, New Delhi: Mittal Pub.
5. Modi, Ishwar and Modi, Shalini (1997) *Drugs: Addiction and Prevention*, Jaipur: Rawat Publication.

6. National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.
7. Sain, Bhim 1991, *Drug Addiction Alcoholism, Smoking obscenity* New Delhi: Mittal Publications.
8. Sandhu, Ranvinder Singh, 2009, *Drug Addiction in Punjab: A Sociological Study*. Amritsar: Guru Nanak Dev University.
9. Singh, Chandra Paul 2000. *Alcohol and Dependence among Industrial Workers*: Delhi: Shipra.
10. Sussman, S and Ames, S.L. (2008). *Drug Abuse: Concepts, Prevention and Cessation*, Cambridge University Press.