

FACULTY OF ENGINEERING & TECHNOLOGY

SYLLABUS FOR THE BATCH FROM YEAR 2025 TO YEAR 2028

FOR

BACHELOR OF VOCATION (SOFTWARE DEVELOPMENT) (Credit Based Grading System)

SEMESTER: I – VI

EXAMINATIONS: 2025-28



**GURU NANAK DEV UNIVERSITY,
AMRITSAR.**

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Bachelor of Vocation (Software Development) (CBGS)
Syllabus for the batch from year 2025 to 2028

SCHEME OF SYLLABUS

SEMESTER – I

Subject Code	Paper Name	M. Marks	Credits		
			L	T	P
BSD01001T	Fundamentals of Information Technology	100	3	1	0
BSD01002T	Web Technology	100	3	1	0
BSD01003T	Programming using C Language	100	3	1	0
BSD01004L	Lab I: Office Automation and Web Technology	50	0	0	2
BSD01005L	Lab II: Programming in C Language	50	0	0	2
ENL121	Communication Skills in English – I	100	4	0	0
PBL601 PBL611 PHC110	Punjabi Compulsory-1/ ਪੰਜਾਬੀ ਲਾਜ਼ਮੀ-1 OR * ਮੁੱਢਲੀ ਪੰਜਾਬੀ-1/Mudhli Punjabi-1 OR * Punjab History & Culture (From Earliest Times to C 320)	100	4	0	0
USE-0011	Entrepreneurship Mindset-I	50	0	0	2
	Total:	650	17	3	6
			26		

***Special Note:**

- ਜਿਹੜੇ ਵਿਦਿਆਰਥੀ **Domicile/Non-Domicile of Punjab** ਹਨ ਅਤੇ ਉਨ੍ਹਾਂ ਨੇ ਅੱਠਵੀਂ/ਦਸਵੀਂ ਜਮਾਤ ਤੱਕ ਪੰਜਾਬੀ ਵਿਸ਼ਾ ਪੜ੍ਹਿਆ ਹੈ, ਉਹ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ) ਪੜ੍ਹਨਗੇ।
- ਜਿਹੜੇ ਵਿਦਿਆਰਥੀ **Non-Domicile of Punjab** ਹਨ ਅਤੇ ਅੱਠਵੀਂ/ਦਸਵੀਂ ਜਮਾਤ ਤੱਕ ਪੰਜਾਬੀ ਵਿਸ਼ਾ ਨਹੀਂ ਪੜ੍ਹਿਆ ਹੈ, ਉਹ ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਜਾਂ ਪੰਜਾਬ ਹਿਸਟਰੀ ਐਂਡ ਕਲਚਰ ਵਿੱਚੋਂ ਕੋਈ ਇੱਕ ਵਿਸ਼ਾ ਚੁਣ ਸਕਦੇ ਹਨ।
- ਜਿਹੜੇ ਵਿਦਿਆਰਥੀ **Domicile of Punjab** ਹਨ, ਪੰਤੂ ਕਿਸੇ ਕਾਰਣ ਪੰਜਾਬ ਤੋਂ ਬਾਹਰ ਪੜ੍ਹੇ ਹਨ ਅਤੇ ਉਨ੍ਹਾਂ ਨੇ ਅੱਠਵੀਂ/ਦਸਵੀਂ ਜਮਾਤ ਤੱਕ ਪੰਜਾਬੀ ਵਿਸ਼ਾ ਨਹੀਂ ਪੜ੍ਹਿਆ ਹੈ, ਉਹ ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਦਾ ਹੀ ਵਿਸ਼ਾ ਪੜ੍ਹਨਗੇ।
- ਜਿਹੜੇ ਵਿਦਿਆਰਥੀ **Domicile of Punjab** ਹਨ ਅਤੇ ਪੰਜਾਬ ਦੇ ਕੇਂਦਰੀ ਵਿਦਿਆਲਿਆ ਜਾਂ ਕਿਸੇ ਹੋਰ ਸਕੂਲ ਵਿੱਚ ਪੜ੍ਹੇ ਹਨ ਅਤੇ ਕਿਸੇ ਕਾਰਣ ਉਨ੍ਹਾਂ ਨੇ ਅੱਠਵੀਂ/ਦਸਵੀਂ ਜਮਾਤ ਤੱਕ ਪੰਜਾਬੀ ਵਿਸ਼ਾ ਨਹੀਂ ਪੜ੍ਹਿਆ ਹੈ, ਉਹ ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਦਾ ਵਿਸ਼ਾ ਹੀ ਪੜ੍ਹਨਗੇ।

Bachelor of Vocation (Software Development) (CBGS)
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SEMESTER – II

Subject Code	Paper Name	M. Marks	Credits		
			L	T	P
BSD02001T	Internet Applications	100	3	1	0
BSD02002T	Data Structure	100	3	1	0
BSD02003T	Object Oriented Programming	100	3	1	0
BSD02004L	Lab I: Programming in C++	50	0	0	2
BSD02005L	Lab II: Practical based on Data Structure	50	0	0	2
ENL122	Communication Skills in English – II (Theory)	75	3	0	0
ENP122	Communication Skills in English – II (Practical)	25	0	0	1
PBL602 PBL612 PHC111	Punjabi Compulsory-2/ਪੰਜਾਬੀ ਲਾਜ਼ਮੀ-2 OR * ਮੁੱਢਲੀ ਪੰਜਾਬੀ-2/Mudhli Punjabi OR * Punjab History & Culture (C 320 TO 1000 A.D.)	100	4	0	0
SOA-105	Drug Abuse: Problem, Management and Prevention (Value Added Course)	50	2	0	0
USE-0012	Entrepreneurship Mindset-II	50	0	2	50
Total:		700	18	5	5
			28		

****Special Note:**

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- ਜਿਹੜੇ ਵਿਦਿਆਰਥੀ **Non-Domicile of Punjab** ਹਨ ਅਤੇ ਅੱਠਵੀਂ/ਦਸਵੀਂ ਜਮਾਤ ਤੱਕ ਪੰਜਾਬੀ ਵਿਸ਼ਾ ਨਹੀਂ ਪੜ੍ਹਿਆ ਹੈ, ਉਹ ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਜਾਂ ਪੰਜਾਬ ਹਿਸਟਰੀ ਐਂਡ ਕਲਚਰ ਵਿੱਚੋਂ ਕੋਈ ਇੱਕ ਵਿਸ਼ਾ ਚੁਣ ਸਕਦੇ ਹਨ।
- ਜਿਹੜੇ ਵਿਦਿਆਰਥੀ **Domicile of Punjab** ਹਨ, ਪੰਤੂ ਕਿਸੇ ਕਾਰਣ ਪੰਜਾਬ ਤੋਂ ਬਾਹਰ ਪੜ੍ਹੇ ਹਨ ਅਤੇ ਉਨ੍ਹਾਂ ਨੇ ਅੱਠਵੀਂ/ਦਸਵੀਂ ਜਮਾਤ ਤੱਕ ਪੰਜਾਬੀ ਵਿਸ਼ਾ ਨਹੀਂ ਪੜ੍ਹਿਆ ਹੈ, ਉਹ ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਦਾ ਹੀ ਵਿਸ਼ਾ ਪੜ੍ਹਣਗੇ।
- ਜਿਹੜੇ ਵਿਦਿਆਰਥੀ **Domicile of Punjab** ਹਨ ਅਤੇ ਪੰਜਾਬ ਦੇ ਕੇਂਦਰੀ ਵਿਦਿਆਲਿਆ ਜਾਂ ਕਿਸੇ ਹੋਰ ਸਕੂਲ ਵਿੱਚ ਪੜ੍ਹੇ ਹਨ ਅਤੇ ਕਿਸੇ ਕਾਰਣ ਉਨ੍ਹਾਂ ਨੇ ਅੱਠਵੀਂ/ਦਸਵੀਂ ਜਮਾਤ ਤੱਕ ਪੰਜਾਬੀ ਵਿਸ਼ਾ ਨਹੀਂ ਪੜ੍ਹਿਆ ਹੈ, ਉਹ ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਦਾ ਵਿਸ਼ਾ ਹੀ ਪੜ੍ਹਣਗੇ।

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SEMESTER-III

			Credits		
Subject Code	Paper Name	M. Marks	L	T	P
BSD03001T	Database System	100	3	1	0
BSD03002T	Java Programming	100	3	1	0
BSD03003T	Software Engineering Methodology	100	3	1	0
BSD03004L	Lab I: Lab based on SQL & PL/SQL	50	0	0	2
BSD03005L	Lab II: Java Programming	50	0	0	2
BSD03006L	Practical: CRUD Application Development using PHP & MySql	100	0	0	4
Total:		500	9	3	8
		Grand Total:	20		

SEMESTER-IV

			Credits		
Subject Code	Paper Name	M. Marks	L	T	P
BSD04001T	Open Source Software	100	3	1	0
BSD04002T	Information Security	100	3	1	0
BSD04003T	Introduction to Python Programming	100	3	1	0
BSD04004L	Lab I: Practical based on Android Development	50	0	0	2
BSD04005L	Lab II: Practical Based on Python Programming	50	0	0	2
BSD04006L	Minor Project: Software Module based on Web Technology/Database/Programming Language	100	0	0	4
ESL-222	Environmental Studies (Value Added Course)	50	2	0	0
Total:		450	11	3	8
			22		

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SEMESTER-V

			Credits		
Subject Code	Paper Name	M. Marks	L	T	P
BSD05001T	Operating System	100	3	1	0
BSD05002T	Advanced Software Engineering	100	3	1	0
BSD05003L	Web Development Framework-FLASK (Practical)	50	0	0	2
BSD05004L	Lab I: Soft Skills in IT	50	0	0	2
BSD05005L	Lab II: System and Network Administration	100	0	0	4
BSD05006L	Lab III: Software Testing (Case Tools)	100	0	0	4
Total		500	6	2	12
			20		

SEMESTER-VI

			Credits		
Subject Code	Paper Name	M. Marks	L	T	P
BSD06001L	Project Dissertation (Industrial Training and Project in Software/IT industry)	550	0	0	22
PSL061	Human Rights And Constitutional Duties (Value Added Course)	50	2	0	0
Total		600	2	0	22
			24		

**Bachelor of Vocation (Software Development) (CBGS)
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SEMESTER-I

BSD01001T: FUNDAMENTALS OF INFORMATION TECHNOLOGY

Credits

L T P

3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION-A

An overview of computer system: Block diagram of Computer, Components of Computers, and advantages of computer.

[6 Hrs.]

SECTION-B

I/O and storage Devices: Keyboard, mouse, pens, touch screens, Bar Code reader, joystick, Monitor, printers, plotters, Primary storage (Storage addresses and capacity, type of memory), Secondary storage, Magnetic storage devices and optical storage devices

[12 Hrs.]

SECTION-C

Number System: decimal, binary, octal, hexadecimal numbers and their-conversions

[12 Hrs.]

Development Tools: Editors, Translators, Compilers, Interpreters, Linkers Loaders, Debuggers.

[8 Hrs.]

Programming Tools: Problem Analysis, Program Constructs (Sequential, Decision, Loop), Algorithms, Flowcharts, Pseudo code, Decision table.

[12 Hrs.]

SECTION-D

Data Communications: Introduction to Data Communication, Network and its types, topologies, Transmission Media and modes.

[10 Hrs.]

References:

1. V.K. Jain: Fundamentals of Information Technology.
2. Norton, Peter: Introduction to Computers, McGraw Hill
3. Computer Fundamentals, P.K. Sinha

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SEMESTER-I

BSD01002T: WEB TECHNOLOGY

Credits

L T P

3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION-A

Introduction to Web Development

Webpage, Website, Static Website, Dynamic Website, Web Servers, Web Browsers

[10 Hrs.]

Introduction to HTML/DHTML

HTML Basics, HTML Elements (Tags), Structure of HTML Program, Attributes, Headings, Paragraphs, Formatting, Links, Images, Tables, Lists, Forms, Frames, Where to put Tables, Lists, Images, Forms, CSS in DHTML, Implementation of Web Pages using CSS.

[15 Hrs.]

SECTION-B

Introduction to JavaScript:

How & Where to put the JavaScript Code, JavaScript Statements, Comments, Variables, Operators, Control Statements, Loops, Pop-up Boxes, Functions.

[10 Hrs.]

SECTION-C

Introduction to Dreamweaver

Understanding Workspace Layout, Managing Websites, Creating a Website, Using Dreamweaver Templates, Adding New WebPages, Text and Page Format, Inserting Tables, Lists, Images, Adding Links.

[15 Hrs.]

SECTION-D

Purchasing a Domain Name & Web Space

Domain Name & Web Space, Getting a Domain Name & Web Space (Purchase or Free), Uploading the Website to Remote Server.

[10 Hrs.]

Suggested Readings / Books:

1. Web Enabled Commercial Application Development HTML (Ivan Bayross)
2. JavaScript, a Beginner's Guide John Pollock, Third Edition
3. Dreamweaver CS5 for Dummies Janine C. Warner, Paperback Edition
4. The Essential Guide to Dreamweaver CS4 David Powers

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SEMESTER-I

BSD01003T: PROGRAMMING USING C LANGUAGE

Credits

L T P

3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION–A

C language preliminaries: Introduction to C, Identifiers and Key Words, Data types, Constants, Variables, Expressions, Statements,

[10 Hrs.]

Operators and I/O functions: Arithmetic operators, Unary operators, Relational Operators, Logical Operators, Assignment and Conditional Operators, getchar, putchar, printf, gets, puts

[10 Hrs.]

SECTION–B

Control Statements: While, Do–while and for statements, Nested loops, If–else, Switch, Break – Continue statements.

[10 Hrs.]

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

[8 Hrs.]

SECTION–C

Arrays and Pointers Defining, processing an array, passing arrays to a function, multi–dimensional arrays, Introduction to pointers, Operations on pointers, Pointers and array.

[10 Hrs.]

SECTION–D

Structure and Union: A simple structure, specifying the structure, defining a structure variable Accessing Structure member, Structure within structure, union, difference between structure and union.

[6 Hrs.]

Data Files: Opening, closing, creating, processing and unformatted data files.

[6 Hrs.]

References:

1. Let us C, Yashwant Kanetkar
2. C – programming E. Balagurusamy Tata McGraw Hill
3. Complete reference with C Tata McGraw Hill

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SEMESTER-I

BSD01004L: LAB – I: OFFICE AUTOMATION AND WEB TECHNOLOGY

Credits

L T P

0 0 2

Time: 3 Hrs.

Max. Marks: 50

Practical based on Office Automation and Web Technology

- **Office Automation:** MS Word, MS Excel, MS PowerPoint
- **Web Technology:** HTML, DHTML, Dreamweaver

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SEMESTER-I

BSD01005L: LAB – II: PROGRAMMING IN C LANGUAGE

Credits

L T P

0 0 2

Time: 3 Hrs.

Max. Marks: 50

Practical based on Programming in C language

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SEMESTER-I

**ENL121: COMMUNICATION SKILLS IN ENGLISH-I
(THEORY)**

Time: 3 Hours

**Credits: 4-0-0
(6 periods per week)
Max. Marks: 100**

Instructions for the Paper Setters:-

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

The syllabus is divided in four sections as mentioned below:

SECTION-A

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

SECTION-B

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

SECTION-C

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

SECTION-D

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:

- *Oxford Guide to Effective Writing and Speaking* by John Seely.
- *English Grammar in Use* (Fourth Edition) by Raymond Murphy, CUP

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**SEMESTER-I
PBL601:Punjabi (compulsory)-1
ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)-1**

Time: 03 Hours

**ਕਰੈਡਿਟ 4-0-0
Max. Marks: 100
(6 ਪੀਰੀਅਡ ਪ੍ਰਤੀ ਹਫ਼ਤਾ)**

ਅੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ 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 ਅੰਕ ਬਰਾਬਰ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ-ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠ-ਕ੍ਰਮ

ਸੈਕਸ਼ਨ-ਏ

ਸਰਵੋਤਮ ਪੰਜਾਬੀ ਕਵਿਤਾ ਤੇ ਕਹਾਣੀ

(ਸੰਪਾ. ਡਾ. ਰਮਿੰਦਰ ਕੌਰ, ਡਾ. ਮੇਘਾ ਸਲਵਾਨ) ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
(ਕਵਿਤਾ ਭਾਗ)
(ਕਵਿਤਾ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ/ਵਿਸ਼ਾ-ਵਸਤੂ/ਸਾਰ)

ਸੈਕਸ਼ਨ-ਬੀ

ਮੰਚ ਘਰ

ਡਾ. ਕੁਲਦੀਪ ਸਿੰਘ ਧੀਰ, ਡਾ. ਹਿਰਦੇਜੀਤ ਸਿੰਘ ਭੋਗਲ (ਸੰਪਾ.), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
(ਵਿਸ਼ਾ-ਵਸਤੂ, ਪਾਤਰ ਚਿਤਰਨ)

ਸੈਕਸ਼ਨ-ਸੀ

- (ੳ) ਪੈਰੂਾ ਰਚਨਾ
(ਅ) ਪੈਰੂਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ

ਸੈਕਸ਼ਨ-ਡੀ

ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ:

ਭਾਸ਼ਾ ਦਾ ਟਕਸਾਲੀ ਰੂਪ, ਭਾਸ਼ਾ ਅਤੇ ਉਪਭਾਸ਼ਾ ਵਿਚਲਾ ਅੰਤਰ, ਪੰਜਾਬੀ ਉਪਭਾਸ਼ਾਵਾਂ ਦੇ ਪਛਾਣ ਚਿੰਨ੍ਹ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ-ਨਿਕਾਸ ਤੇ ਵਿਕਾਸ

ਸਹਾਇਕ ਪੁਸਤਕਾਂ

1. ਰਾਜਿੰਦਰਪਾਲ ਸਿੰਘ ਬਰਾੜ, ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਇਤਿਹਾਸ, ਪੰਜਾਬੀ ਅਕਾਦਮੀ, ਦਿੱਲੀ।
2. ਬ੍ਰਹਮਜਗਦੀਸ਼ ਸਿੰਘ, ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਾਵਿ ਸਿਧਾਂਤ, ਇਤਿਹਾਸ ਅਤੇ ਪ੍ਰਵਿਰਤੀਆਂ, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਊਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।
3. ਬਲਦੇਵ ਸਿੰਘ ਧਾਲੀਵਾਲ, ਪੰਜਾਬੀ ਕਹਾਣੀ ਦਾ ਇਤਿਹਾਸ, ਪੰਜਾਬੀ ਅਕਾਦਮੀ, ਦਿੱਲੀ।
4. ਸਤਿੰਦਰ ਸਿੰਘ, ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਵਾਰਤਕ ਦਾ ਇਤਿਹਾਸ, ਪੰਜਾਬੀ ਅਕਾਦਮੀ, ਦਿੱਲੀ।
5. ਡਾ. ਰਮਿੰਦਰ ਕੌਰ, ਪੰਜਾਬੀ ਕਹਾਣੀ ਦਾ ਸਫ਼ਰ ਤੇ ਸ਼ਾਸਤ੍ਰ ਭਾਗ-I, ਸਿੰਘ ਬ੍ਰਦਰਜ, ਅੰਮ੍ਰਿਤਸਰ।
6. ਹਰਕੀਰਤ ਸਿੰਘ, ਭਾਸ਼ਾ ਤੇ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
7. ਹਰਕੀਰਤ ਸਿੰਘ ਤੇ ਗਿਆਨੀ ਲਾਲ ਸਿੰਘ, ਕਾਲਜ ਪੰਜਾਬੀ ਵਿਆਕਰਣ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।
8. ਬੂਟਾ ਸਿੰਘ ਬਰਾੜ, ਪੰਜਾਬੀ ਵਿਆਕਰਣ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ, ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ, ਲੁਧਿਆਣਾ।
9. ਮਿੰਨੀ ਸਲਵਾਨ, ਪੰਜਾਬੀ ਵਿਆਕਰਣ : ਮੁੱਢਲੇ ਸੰਕਲਪ, ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ
10. ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਬੋਧ, ਕਸਤੂਰੀ ਲਾਲ ਐਂਡ ਸੰਨਜ਼, ਅੰਮ੍ਰਿਤਸਰ।

**Bachelor of Vocation (Software Development) (CBGS)
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SEMESTER-I

**PBL611: ਮੁੱਢਲੀ ਪੰਜਾਬੀ-1
(In lieu of Compulsory Punjabi)**

ਕਰੈਡਿਟ 4-0-0

Time: 03 Hours

Max. Marks: 100

(6 ਪੀਰੀਅਡ ਪ੍ਰਤੀ ਹਫ਼ਤਾ)

ਅੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ 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 ਬਰਾਬਰ ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ-ਪ੍ਰਸ਼ਨਾਂ ਵਿੱਚ ਕਰ ਸਕਦਾ ਹੈ।

**ਪਾਠ-ਕ੍ਰਮ
ਸੈਕਸ਼ਨ-ਏ**

ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ

- (ੳ) ਨਾਮਕਰਣ ਤੇ ਸੰਖੇਪ ਜਾਣ-ਪਛਾਣ : ਗੁਰਮੁਖੀ ਵਰਣਮਾਲਾ, ਅਖਰ ਕ੍ਰਮ, ਸਵਰ ਵਾਹਕ (ੳ ਅ ਏ), ਲਗਾਂ-ਮਾਤਰਾਂ, ਪੈਰ ਵਿਚ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣ, ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣ, ਬਿੰਦੀ, ਟਿਪੀ, ਅਧਕ।
- (ਅ) ਸਿਖਲਾਈ ਤੇ ਅਭਿਆਸ

ਸੈਕਸ਼ਨ-ਬੀ

ਗੁਰਮੁਖੀ ਆਰਥੋਗ੍ਰਾਫੀ ਅਤੇ ਉਚਾਰਨ : ਸਵਰ, ਵਿਅੰਜਨ : ਮੁਢਲੀ ਜਾਣ-ਪਛਾਣ ਅਤੇ ਉਚਾਰਣ, ਮੁਹਾਰਨੀ, ਲਗਾਂ-ਮਾਤਰਾਂ ਦੀ ਪਛਾਣ।

ਸੈਕਸ਼ਨ-ਸੀ

ਪੰਜਾਬੀ ਸ਼ਬਦ ਜੋੜ : ਮੁਕਤਾ (ਦੋ ਅਖਰਾਂ ਵਾਲੇ ਸ਼ਬਦ, ਤਿੰਨ ਅਖਰਾਂ ਵਾਲੇ ਸ਼ਬਦ), ਸਿਹਾਰੀ ਵਾਲੇ ਸ਼ਬਦ, ਬਿਹਾਰੀ ਵਾਲੇ ਸ਼ਬਦ, ਔਕੜ ਵਾਲੇ ਸ਼ਬਦ, ਦੁਲੈਂਕੜ ਵਾਲੇ ਸ਼ਬਦ, ਲਾਂ ਵਾਲੇ ਸ਼ਬਦ, ਦੁਲਾਵਾਂ ਵਾਲੇ ਸ਼ਬਦ, ਹੋੜੇ ਵਾਲੇ ਸ਼ਬਦ, ਕਨੌੜੇ ਵਾਲੇ ਸ਼ਬਦ।

ਸੈਕਸ਼ਨ-ਡੀ

ਲਗਾਖਰ (ਬਿੰਦੀ, ਟਿਪੀ, ਅਧਕ ਵਾਲੇ ਸ਼ਬਦ)
ਸ਼ੁਧ, ਅਸ਼ੁਧ (ਪੈਰੇ ਵਿਚ ਲਿਖੇ ਅਸ਼ੁਧ ਸ਼ਬਦਾਂ ਨੂੰ ਸ਼ੁਧ ਕਰਨਾ)

ਸਹਾਇਕ ਪੁਸਤਕਾਂ

1. ਬ੍ਰਹਮਜਗਦੀਸ਼ ਸਿੰਘ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਊਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।
2. ਪ੍ਰੋ. ਸੈਰੀ ਸਿੰਘ, ਪ੍ਰੋ. ਬ੍ਰਹਮਜਗਦੀਸ਼ ਸਿੰਘ, ਭਾਸ਼ਾ ਵਿਗਿਆਨ : ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਊਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।
3. ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਬੋਧ, ਕਸਤੂਰੀ ਲਾਲ ਐਂਡ ਸੰਨਜ਼, ਅੰਮ੍ਰਿਤਸਰ।
4. ਮਿੰਨੀ ਸਲਵਾਨ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ : ਮੁਢਲੇ ਸੰਕਲਪ, ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।

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SEMESTER – I

PHC110 - Punjab History & Culture (From Earliest Times to C 320)

(Special Paper in lieu of Punjabi Compulsory)

(For those students who are not domicile of Punjab)

Time: 3 Hours

Credits: 4-0-0

Max. Marks: 100

Instructions for the Paper Setters:-

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION-A

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

SECTION-B

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

SECTION-C

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

SECTION-D

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

Suggested Readings:

1. L. M Joshi (ed.), *History and Culture of the Punjab*, Art-I, Patiala, 1989 (3rd edition)
2. L.M. Joshi and Fauja Singh (ed.), *History of Punjab*, Vol.I, Patiala 1977.
3. BudhaParkash, *Glimpses of Ancient Punjab*, Patiala, 1983.
4. B.N. Sharma, *Life in Northern India*, Delhi. 1966.
5. Chopra, P.N., Puri, B.N., & Das, M.N.(1974). *A Social, Cultural & Economic History of India*, Vol. I, New Delhi: Macmillan India.

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SEMESTER I

USE-0011 : ENTREPRENEURSHIP MINDSET-I
(Mandatory Skill Enhancement Course)

Credits: 0+0+2

Total Marks: 50

Introduction: This course provides students with a holistic framework to develop entrepreneurial skills across the student's journey. The curriculum covers core principles of entrepreneurship, including identifying business opportunities, setting up opera

tions, marketing, scaling, and financial management.

The aim of this course is to ensure that, by the end, learners acquire essential entrepreneurial competencies such as **strategic thinking, practical application, founders & growth mindset, operational skills, and foundational financial literacy.**

Learning Objectives

By the end of this course, students will be able to:

- Understand and apply entrepreneurial principles to real-world business situations.
- Develop and implement business strategies across different industries.
- Use digital tools, including AI, to enhance and automate business operations.
- Build sustainable business models, manage financials, and scale operations.

Entrepreneurial Specialization Tracks: Skill Development and Business Implementation:

Throughout the program, students will select **one of the following five specialized tracks** using the **“Punjab Entrepreneurship Mindset Programme”** App, designed to provide a structured pathway for developing entrepreneurial skills and implementing business ventures.

- 1. E-commerce:** In this track, students will learn how to build, manage, and scale an online business. From setting up an e-commerce platform to managing digital marketing strategies, inventory, and customer experience, this specialization provides the tools needed to succeed in the rapidly growing digital marketplace.
- 2. Content Creation:** This track focuses on empowering students to create, curate, and market digital content across various platforms. Students will learn how to build a personal or brand identity, develop engaging content, and monetize their platforms, whether through social media, video production, blogging, or influencer marketing.

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- 3. Professional Services:** In this track, students will learn how to capitalize on freelance and contract-based opportunities. They will explore strategies for building a sustainable service-based business, manage client relationships, and maximize the flexibility that comes with this track.
- 4. Retail Business:** This track introduces students to the fundamentals of starting and managing small scale retail ventures. Learners will discover how to identify in-demand products, source suppliers, setup shop (physical or home-based), and attract local customers. Emphasis will be placed on practical steps like pricing, promotion, customer service, and building repeat sales to establish a steady income stream.
- 5. Miscellaneous:** This track gives students the freedom to explore unique and diverse business ideas that don't fit into one category. Learners can identify opportunities around them, test simple solutions, and create small ventures based on local needs or personal interests. The focus is on creativity, problem-solving, and learning how to turn everyday ideas into earning opportunities.

The focus is on practical application, with students engaging in real-world projects that culminate in the creation and scaling of a business.

Registration on the APP:

For Android Users:

Step1: Click the following link to download and install the App:

https://drive.google.com/file/d/1zgfoFWN0Y1zWJNf_gMpbGvIyeQI0WPM2/view?usp=drivesdk

Step2: Register by providing your details and generate OTP. (If the OTP is not generated, use the last six digits of your mobile number as the OTP).

Step3: Open the tasks and complete it by giving your feedback and handling the AI based Quiz.

For I-Phone Users:

Step1: Click on this link <https://punjabstartup.com/>

Step2: Signup to create an account and generate OTP

Step3: Fill in our personal and educational details. After your account is created, open the tasks and complete it by giving your feedback and handling the AI based Quiz.

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Content Creation		
Week/ Milestone	Milestone	Description
1	Start your journey as a content creator	Learn how to reach thousands of followers online by creating content
2	Decide your content topic	Explore different topics and finalize one topic on which you will create content
3	Start your own content channel	Launch your official channel on YouTube or Instagram and start building your audience
4	Plan your first week content calendar	Learn how to create a simple weekly content calendar that would keep your audience engaged and make them follow you
5	Plan and record your first video	Learn how to create a clear and catchy script for your first video and shoot it using your phone
6	Edit and launch your first video	Learn how to edit your video with trendy music And cool effects and launch your channel with first video
7	Reach first 100 followers	Use WhatsApp and personal Instagram account to tell people about your channel and reach first 100 followers/subscribers
8	Master the skill of engaging people with your content	Learn how to connect with your audience so they stay engaged and feel involved
9	Follow latest trends and famous influencers to grow your channel	Learn how to use trending to pics and tag well- known channels or creators to boost your reach and attract more followers
10	Learn how you can make money from your content	Discover how to do brand deals and promote brands or products your followers truly care about
11	Make your first partnership	Reach out to 10 brands for partnership and turn one into your first paid deal
12	Plan your business growth	Create a 1-month plan on what to post on a weekly basis to grow your followers and earn money

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E-commerce		
Week/ Milestone	Milestone	Description
1	Learn how to start selling online	Learn what an E-commerce business is and how you can start selling online in less than 30 days
2	Choose your product	Explore different products and finalize what you want to sell online
3	Find a supplier who will deliver the product for you	Identify suppliers who can send your product directly to the customer and help you launch your E-commerce business
4	Create your E-commerce store	Make a simple online store using Instamojo and learn how to upload product images and description on the store
5	Activate payments on your store	Learn how to link your bank account to a payment gateway and integrate that with your Instamojo store to Start receiving payments
6	Launch your online store	Connect your domain name to your Instamojo account, create your launch poster, and officially launch your E-commerce store
7	Get first 100 people visit your online store	Learn how to write simple and catchy messages to promote your store and send it to 100 people
8	Make your first sale	Convert one paying customer and learn how to process the order from beginning to delivery
9	Create and post your first ad	Learn how to design a simple promotional ad and post it to bring in more people and sales
10	Take feedback from customers	Engage with your paid customers, take product feedback, and upload success stories or reviews on your website
11	Get a repeat customer or referral	Build trust with your paid customers to get either a repeat order or a referral
12	Plan your business growth	Make a 1-month plan to promote and grow your E-commerce store and earn more money

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Professional Service		
Week/ Milestone	Milestone	Description
1	Start your journey in professional services	Learn what is a service and how you can earn money by offering your skill as a service
2	Choose your service skill	Choose one skill you are good at and turn it into a service that people will pay for
3	Find your ideal customer	Talk to people directly or through social media apps, understand who is willing to pay For your service and "WHY"
4	Build your online profile and show what you offer	Explore apps or websites such as WhatsApp Business, Upwork, or Urban Company, and learn how to create an online profile
5	Write your service description	Learn how to write your service in a simple and powerful way that gets people excited to try it
6	Finalize your pricing and launch your service	Learn how to set the right price that your customer finds fair and launch your service
7	Get first 100 leads for your service	Learn how to write catchy messages to promote your service in the market and get first100 leads
8	Offer a free service and learn from feedback	Give your service for free to real users and use their feedback to make it better
9	Make your first sale	Get one paying customer for your service and work really hard to get a 5 star rating and a video testimonial
10	Build trust with customers and get repeat orders	Use your trust and good relationship with existing customers to get your first repeat customer
11	Earn your first referral	Start offering bonus or other additional services to your existing customers and get Your first referral
12	Plan your business growth	Make a1month plan on how to get more customers and earn more money

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Retail Business		
Week/ Milestone	Milestone	Description
1	Learn how to start retail business	Understand how retail works, the types of business you can start, and talking to local shops
2	Choose your product and ideal customer	Look at products in demand in your area and choose what you'll focus on based on Your customer needs
3	Find a supplier for your product	Identify suppliers or wholesalers who can give you quality products/raw materials at good prices
4	Setup your business	Arrange your shop/home or prepare your product stocked with shopkeepers
5	Decide product prices and prepare stock	Decide the right selling price, maintain a simple record of sales, and get ready to handle cash or digital payments
6	Launch your business	Put up posters near your shop, and share the announcement with friends, family, and local Community groups
7	Promote your business in your area	Learn how to use simple ways to promote your business locally
8	Make your first sale	Ensure the buying process is smooth and the customer is happy
9	Take feedback from customers	Engage with your paid customers and take product feedback
10	Discover other platforms to grow your sales	Learn how to setup a free WhatsApp Business account for your shop and collect Orders there
11	Get a repeat customer or referral	Build trust with your paid customers to get either a repeat order or a referral
12	Plan your business growth	Make a 1-month plan to promote and grow your retail business and earn more money

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Miscellaneous		
Week/ Milestone	Milestone	Description
1	Start your journey as an entrepreneur	Learn what entrepreneurship means and how you can start earning by solving problems around you
2	Identify and valid a tea problem to solve	Look around yourself, talk to people, and pick one real problem that many people face
3	Define your customer and their pain points	Find out who will buy from you, what difficulties they face, and why they need your solution
4	Generate business ideas and finalize one idea	Think of different ways to solve the problem, compare options, and choose one idea to move ahead with
5	Define your product or service	Decide clearly what product or service you will Provide and how it will solve the customer's problem
6	Finalize your pricing and launch your business	Set a fair price for your product or service and take the first step to launch your business
7	Promote your business and get first 100 leads	Tell people about your business using word of mouth, posters, or social media, and collect interest from 100 people
8	Make your first sale	Get your first paying customer and deliver your product or service with full effort
9	Take feedback from customers and improve	Listen to what customers say after using your product/service and make it better step by step
10	Build trust with customers and get your first repeat order	Keep your promise, give good quality, and motivate your customer to buy from you again
11	Earn your first referral and expand your sales	Ask happy customer store commend you to friends and family so that you can grow your sales
12	Plan your business growth	Make a simple plan for the next month to get more customers, increase sales, and grow your business

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Evaluation Criteria

The evaluation will be conducted by a committee consisting of the class mentor, nodal officer and the principal HOD or his/her nominee.

Evaluation Component	Description	Weightage
Weekly Task Completion	Timely submission of weekly tasks, including activities, reflection prompts, graded quizzes etc	60%
Target Completion	Performance-based evaluation on hitting revenue or Profit targets (e.g., generating ₹ 10,000 revenue)	20%
Final Project	A comprehensive project depending the theme of the semester	20%

Evaluation mechanism

Weightage:

A. 60% weightage (30 marks) for app based evaluation. (done by the app automatically after the cut off date)

B. 20% Weightage (10 marks) for profit-based evaluation, as per table below

Profit ₹100 to ₹ 5000 5 marks

Profit above ₹ 5000 10 marks

C. 20% Weightage (10 marks) for project-based evaluation. Format for project report is as per Annexure.

Weekly Component:

Each week of the course follows a structured format designed to guide students from learning to doing, using simple, mobile-accessible components:

Component	Duration	Description
Action Lab	~4hrs	- Hands-on task on the weekly concept - Includes step-by-step guidance, templates, and worksheets - Ends with a submission(e.g., video, reflection, or proof of action)
Learning Resources	Self-paced	-Videos, short readings, real-life stories, and tools to deepen understanding at their own pace
Check-in	Self-paced	-Quizzes & Reflection prompts

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Syllabus Overview for Semester 1-5

Semester	Learning Focus	Learner's demonstration	Revenue Target
1	Setup & Launch	Understand. Create. Start.	₹ 10,000
2	Marketing Basics	Engage. Share. Grow.	₹ 40,000
3	Operations & Scale	Earn. Deliver. Expand.	₹ 80,000
4	Organic Growth	Attract. Retain. Build.	₹ 160,000
5	AI Automation & Finance mastery	Simplify. Track. Sustain	₹ 400,000

Semester 1: Setup & Launch

In Term 1, students will explore what entrepreneurship means and how it connects to their daily lives. They will learn to identify problems, shape simple business ideas, and test the mineral settings. This semester builds the foundation—mindset, observation, value creation, and action.

Semester 2: Marketing Basics

In Term 2, students will learn how to attract customers and grow their visibility using digital platforms and community-based marketing strategies. Students will also begin to run paid advertising campaigns and learn how to optimize their marketing efforts.

Semester 3: Operations & Scale

This semester focuses on the day-to-day operations of running a business, including order fulfillment, customer service, and logistics. Students will also focus on scaling operations as demand grows, with an emphasis on managing resources effectively.

Bachelor of Vocation (Software Development) (CBGS) Syllabus for the batch from year 2025 to 2028

Semester 4: Organic Growth

Students will learn how to grow their businesses organically, using referrals, partnerships, and community engagement. This semester focuses on building a loyal customer base and using word-of-mouth marketing to increase reach and credibility.

Semester 5: AI Automation & Financial Mastery

The final semester prepares students for long-term sustainability. Students integrate AI to improve productivity, automate routine tasks, and enhance decision-making. They also dive deep into financial planning, learning to set income goals, track expenses, understand profit margins, and create simple financial forecasts. This semester helps students solidify their entrepreneurial identity design systems for financial stability and scalability.

Course Outcomes

After studying this course, students will be able to:

- Launch and manage a business within their chosen track.
- Identify profitable opportunities and develop innovative solutions.
- Implement marketing and sales strategies using both digital and traditional methods.
- Use financial metrics to track performance and make informed business decisions.
- Scale a business using operational systems and automation tools.

Suggested Readings

- Simon Sinek, *Start with Why: How Great Leaders Inspire Everyone to Take Action*, Portfolio/Penguin
- Eric Ries, *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*, Crown Business
- Jonah Berger, *Contagious: How to Build Word of Mouth in the Digital Age*, Simon & Schuster
- Phil Knight, *Shoe Dog: A Memoir by the Creator of Nike*, Scribner
- Jason Fried and David Heinemeier Hansson, *Rework: Change the Way You Work Forever*, Crown Business
- Héctor García and Francesc Miralles, *Ikigai: The Japanese Secret to a Long and Happy Life*, Penguin Books
- Tim Ferriss, *Tools of Titans (Selected Chapters)*, Houghton Mifflin Harcourt
- Peter Thiel and Blake Masters, *Zero to One: Notes on Startups, or How to Build the Future*, Crown Business
- Anil Lamba, *Romancing the Balance Sheet*, Anil Lamba Publications
- The Better India/Your Story, *Young Entrepreneurs Series* (Collection of Articles) Real Indian stories
Of youth starting businesses, snackable reads that show what's possible.

ANNEXURE

PROJECT REPORT ON ENTREPRENEURSHIP MINDSET”

IN TRACK NAME

Submitted

In Partial fulfillment of the requirements for (Course Name)



Department Name/College Name

Guru Nanak Dev University

Amritsar

Supervised By:

Submitted By:

Name:

Roll No/Student ID:

Class:

Bachelor of Vocation (Software Development) (CBGS)
Syllabus for the batch from year 2025 to 2028

STUDENT DECLARATION

This is to certify that the project titled “[Insert title and track name]” which has been undertaken and completed under the **Entrepreneurship Mindset** program during the academic year _____ in partial fulfillment of the requirements of [Course Name] [Semester] is a bonafide piece of research.

I have duly acknowledged all sources of information and assistance received during the preparation of this project. In case this project report or any of it is found to be copied or quoted without any reference, I shall be solely held accountable for the repercussions arising there from.

Date

[Signature]

Name

Roll No

Class

Bachelor of Vocation (Software Development) (CBGS)
Syllabus for the batch from year 2025 to 2028

CERTIFICATE OF COMPLETION

This is to certify that **[Student Name]**, bearing Roll No./Student ID **[Insert No.]**, of **[Institution Name]**, has successfully completed the project titled **“[Insert Project Title]”** under the **Entrepreneurship Mindset** program during the academic year ____.

The work embodied in this report is carried out under my supervision and guidance.

[Signature]

[Signature]

Supervisor Name

Student Name

Roll No:

[illegible]

Bachelor of Vocation (Software Development) (CBGS)
Syllabus for the batch from year 2025 to 2028

USE: 0011: ENTREPRENEURSHIP MINDSET-I
SPECIMEN FOR PROJECT REPORT

Chapter 1: Introduction

M.M: 20

1.1 Background of the Business: *Describe your core product/service and how it operates.*

1.2 Reason and Motivation: *Explain what inspired you or the gap you identified.*

1.3 Unique Selling Proposition (USP): *State what makes your business different.*

1.4 Futuristic Vision: *Describe your future goals and expansion plans.*

Chapter 2: The Entrepreneurial Journey

2.1 Foundation: Learning and Problem Identification: *Describe how you identified the problem or opportunity and what you learned.*

2.2 Blueprint: Defining the Customer and Finalizing the Idea: *Define your target customer and finalize your business idea.*

2.3 Launch: Product/Service Definition and Going Live: *Explain how you introduced your product/service to the market.*

2.4 First Success: Initial Promotion and Securing the First Sale: *Mention your initial promotions, first sale, or milestone achieved.*

2.5 Building the Business: Incorporating Feedback and Securing Repeat Orders: *Describe how you improved using feedback and gained repeat customers.*

Chapter 3: Financial Performance and Revenue Analysis

3.1 Initial Capital: *Show how much money you invested and where it was used.*

3.2 Budget Allocation: *Break down your expenses by category (e.g., marketing, inventory).*

3.3 Revenue Streams: *Explain how your business earns income and its pricing approach.*

3.4 Profit & Loss Statement: *Present your revenue, expenses, and resulting profit/loss.*

Chapter 4: Summary and Conclusion

4.1 Key Challenges and Solutions: *Highlight major difficulties and how you overcame them.*

4.2 Personal Learning: *Reflect on what you and your team learned from the experience.*

4.3 Future Growth Plan: *Outline your roadmap for expanding or improving your venture.*

4.4 Conclusion: *Summarize your key insights and the overall impact of your entrepreneurial journey.*

**Bachelor of Vocation (Software Development) (CBGS)
Syllabus for the batch from year 2025 to 2028**

SEMESTER-II

BSD02001T: INTERNET APPLICATIONS

Credits

L T P

3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION-A

Introduction: About internet and its working, business use of internet, services offered by internet, evaluation of internet, internet service provider (ISP), windows environment for dial up networking (connecting to internet), audio on internet, internet addressing (DNS) and IP addresses).

[12 Hrs.]

SECTION-B

E-Mail: Concept, Advantage and disadvantage, structure of an e-mail message, working of e-mail (sending and receiving messages), managing e-mail (creating new folder, deleting messages, forwarding messages, filtering messages) Implementation of outlook express.

[12 Hrs.]

Internet Protocol: Introduction, file transfer protocol (FTP), Gopher, Telnet, other protocols like HTTP and TCP/IP.

[6 Hrs.]

SECTION-C

WWW: Introduction, working of WWW, Web browsing (opening, viewing, saving and printing a web page and bookmark).

[6 Hrs.]

Intranet and Extranet Introduction, application of intranet, business value of intranet, working of intranet, role of extranet, working of extranet, difference between intranet and extranet.

[10 Hrs.]

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SEMESTER-II

SECTION-D

Search Engine: About search engine, component of search engine, working of search engine, difference between search engine and web directory.

[6 Hrs.]

News Group: Basic concepts of newsgroup, connecting to a news server, subscribing to newsgroup, organization of articles, reading messages, posting replies and new messages, managing newsgroup and messages.

[8 Hrs.]

References:

1. Internet and its Applications by Ackerman.
2. Internet – The Complete Reference

**Bachelor of Vocation (Software Development) (CBGS)
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SEMESTER-II

BSD02002T: DATA STRUCTURE

Credits
L T P
3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION-A

Basic Data Structure: Introduction to Data Structure, Common Operations on Data Structures, Algorithm Complexity, Big O Notation, Time – Space trade off between Algorithms.

[7 hrs.]

Arrays: Define Array, Representing Arrays in Memory, Various Operations on Linear Arrays, Linear Search and Binary Search

[8 hrs.]

SECTION-B

Linked Lists: Types of Linked Lists, Representing Linked Lists in Memory, Advantages of using Linked Lists over Arrays, Various Operations on Linked Lists.

[8 hrs.]

Stacks: Description of STACK structure, Implementation of Stack using Arrays and Linked Lists, Push and Pop operations of Stack, Applications of Stacks – Converting Arithmetic expression from infix notation to polish and their subsequent evaluation

[8 hrs.]

SECTION-C

Queues: Description of queue structure, Implementation of queue using arrays and linked lists, Insertion and Deletion operations in Circular Queue, description of priorities of queues, dequeues.

[8 hrs.]

Trees: Description of Tree Structure and its Terminology, Binary Trees and Binary Search trees and their representation in Memory

[7 hrs.]

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SEMESTER-II

SECTION-D

Graphs: Description of Graph Structure, Implement Graphs in Memory using Adjacency Matrix and Adjacency list, BSF and DFS traversal of the graph

[7 hrs.]

Sorting techniques: Sorting Algorithms, Bubble Sort, Insertion Sort, Selection Sort, Merge Sort

[7 hrs.]

References:

1. Seymour Lipschutz, Theory and Problems of Data Structures, Schaum's Outline Series, McGraw Hill Company.
2. Tanenbaum, Data Structure using C.

**Bachelor of Vocation (Software Development) (CBGS)
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SEMESTER-II

BSD02003T: OBJECT ORIENTED PROGRAMMING

Credits

L T P

3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION-A

Object-Oriented Programming Concepts: Introduction, comparison between procedural programming paradigm and object-oriented programming paradigm, basic concepts of object-oriented programming, Data Types, Operators and Control Structures. **[8 hrs.]**

Standard Input/output: Concept of streams, hierarchy of console stream classes, input/output using cin (>>) and cout (<<), formatting output using ios class functions, flags and manipulators.

[4 hrs.]

SECTION-B

Functions: Defining and accessing function, passing arguments to functions, inline functions, static function and storage classes.

[4 hrs.]

Classes and Objects: Specifying a class, creating class objects, accessing class members, access specifiers, static members, friend function, empty classes and nested classes.

[8 hrs.]

SECTION-C

Pointers and Dynamic Memory Management: dynamic memory management using *new* and *delete* operators, pointer to an object, *this* pointer, pointer related problems - dangling/wild pointers, null pointer, memory leak and allocation failures.

[6 hrs.]

Constructors and Destructors: Need for constructors and destructors, Default Constructor, Parameter Constructor and Copy Constructor, destructors, constructors and destructors with static members.

[8 hrs.]

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SEMESTER-II

SECTION-D

Inheritance: Introduction, defining derived classes, types of inheritance: Multiple, Multilevel, Hybrid and Hierarchical Inheritance, virtual base class, overriding member functions,

[8 hrs.]

Operator Overloading: Overloading operators, rules for overloading operators, overloading of various operators: unary and binary operators, type conversion: implicit and Explicit.

[7 hrs.]

Polymorphism: Concept of binding - early binding and late binding, function overloading, virtual functions, pure virtual functions, abstract classes, virtual destructors.

[7 hrs.]

Recommended Books:

1. Lafore R., **Object Oriented Programming in C++**, Waite Group.
 2. E. Balagurusamy, **Object Oriented Programming with C++**, Tata McGraw Hill.
 3. Bjarne Stroustrup, **The C++ Programming Language**, Addison Wesley.
- Herbert Schildt, **The Complete Reference to C++ Language**, McGraw Hill-Osborne.

Bachelor of Vocation (Software Development) (CBGS)
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SEMESTER-II

BSD02004L: LAB – I: PROGRAMMING IN C++

Credits

L T P

0 0 2

Time: 3 Hrs.

Max. Marks: 50

Practical based on Programming in C++

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SEMESTER-II

BSD02005L: LAB – II: PRACTICAL BASED ON DATA STRUCTURE

Credits

L T P

0 0 2

Time: 3 Hrs.

Max. Marks: 50

Practical based on Data Structure

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SEMESTER-II

**ENL122: COMMUNICATION SKILLS IN ENGLISH – II
(THEORY)**

Time: 3 Hours

**Credits: 3-0-0
(6 periods per week)
Max. Marks: 100
Theory Marks: 75
Practical Marks: 25**

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

Course Contents:

SECTION-A

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

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

SECTION-B

Attending telephone calls; note taking and note making.

Activities: Taking notes on a speech/lecture

SECTION-C

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

SECTION-D

The study of sounds of English,

Stress and Intonation,

Situation based Conversation in English,

Essentials of Spoken English.

Activities: Giving Interviews

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SEMESTER-II

ENP122: COMMUNICATION SKILLS IN ENGLISH – II

PRACTICAL / ORAL TESTING

Marks: 25
Credits: 0-0-1

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 10 minutes duration (Topic can be given in advance or it can be 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.

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**SEMESTER-II
PBL602:Punjabi (Compulsory)-2
ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)-2**

Time: 03 Hours

**ਕਰੈਡਿਟ 4-0-0
Max. Marks: 100
(6 ਪੀਰੀਅਡ ਪ੍ਰਤੀ ਹਫ਼ਤਾ)**

ਅੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ 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 ਅੰਕ ਬਰਾਬਰ ਹਨ।
4. ਪੇਪਰ ਸੈਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ-ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠ-ਕ੍ਰਮ

ਸੈਕਸ਼ਨ-ਦੇ

1. **ਸਰਵੋਤਮ ਪੰਜਾਬੀ ਕਵਿਤਾ ਤੇ ਕਹਾਣੀ**
(ਸੰਪਾ. ਡਾ. ਰਮਿੰਦਰ ਕੌਰ, ਡਾ. ਮੇਘਾ ਸਲਵਾਨ)
ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
(ਕਹਾਣੀ ਭਾਗ)
ਕਹਾਣੀ ਦਾ ਸਾਰ/ਵਿਸ਼ਾ-ਵਸਤੂ

ਸੈਕਸ਼ਨ-ਬੀ

ਗੰਦ ਪ੍ਰਵਾਹ (ਰੇਖਾ ਚਿੱਤਰ ਤੇ ਹਲਕੇ ਲੇਖ)
(ਸੰਪਾ. ਡਾ. ਬਿਕਰਮ ਸਿੰਘ ਘੁੰਮਣ ਅਤੇ ਜਸਪਾਲ ਸਿੰਘ),
ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
(ਵਿਸ਼ਾ-ਵਸਤੂ/ਸਾਰ/ਵਾਰਤਕ ਸੈਲੀ)

ਸੈਕਸ਼ਨ-ਸੀ

- (ੳ) ਸ਼ਬਦ ਬਣਤਰ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ, ਪਰਿਭਾਸ਼ਾ, ਮੁਢਲੇ ਸੰਕਲਪ
- (ਅ) ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ

ਸੈਕਸ਼ਨ-ਡੀ

ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ
ਮੁਹਾਵਰੇ ਅਤੇ ਅਖਾਣ

ਸਹਾਇਕ ਪੁਸਤਕਾਂ

1. ਸਤਿੰਦਰ ਸਿੰਘ, **ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਵਾਰਤਕ ਦਾ ਇਤਿਹਾਸ**, ਪੰਜਾਬੀ ਅਕਾਦਮੀ, ਦਿੱਲੀ।
2. ਪ੍ਰੋ. ਪਿਆਰਾ ਸਿੰਘ, **ਪੰਜਾਬੀ ਵਾਰਤਕ : ਸਿਧਾਂਤ ਇਤਿਹਾਸ ਪ੍ਰਵਿਰਤੀਆਂ**, ਨਿਊ ਬੁੱਕ ਕੰਪਨੀ, ਜਲੰਧਰ।
3. ਇੰਦਰਪ੍ਰੀਤ ਸਿੰਘ ਧਾਮੀ, **ਪੰਜਾਬੀ ਰੇਖਾ ਚਿੱਤਰ : ਰੂਪ ਤੇ ਪ੍ਰਕਾਰਜ**, ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।
4. ਬਲਬੀਰ ਸਿੰਘ ਦਿਲ, **ਪੰਜਾਬੀ ਨਿਬੰਧ : ਸਰੂਪ, ਸਿਧਾਂਤ ਅਤੇ ਵਿਕਾਸ**, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
5. ਹਰਕੀਰਤ ਸਿੰਘ ਤੇ ਗਿਆਨੀ ਲਾਲ ਸਿੰਘ, **ਕਾਲਜ ਪੰਜਾਬੀ ਵਿਆਕਰਨ**, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।
6. ਡਾ. ਅਮਰ ਕੋਮਲ (ਸੰਪਾ.), **ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਨਿਬੰਧ** (ਭੂਮਿਕਾ), ਨੈਸ਼ਨਲ ਬੁੱਕ ਟਰਸਟ, ਦਿੱਲੀ।
7. ਅਬਨਾਸ਼ ਕੌਰ, **ਪੰਜਾਬੀ ਰੇਖਾ ਚਿੱਤਰ**, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
8. ਮਿੰਨੀ ਸਲਵਾਨ, **ਪੰਜਾਬੀ ਵਿਆਕਰਨ : ਮੁੱਢਲੇ ਸੰਕਲਪ**, ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।
9. ਬੂਟਾ ਸਿੰਘ ਬਰਾੜ, **ਪੰਜਾਬੀ ਵਿਆਕਰਨ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ**, ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ, ਲੁਧਿਆਣਾ।

**Bachelor of Vocation (Software Development) (CBGS)
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SEMESTER - II

**PBL612: ਮੁੱਢਲੀ ਪੰਜਾਬੀ-2
(In lieu of Compulsory Punjabi)**

Time: 03 Hours

**ਕਰੈਡਿਟ 4-0-0
Max. Marks : 100
(6 ਪੀਰੀਅਡ ਪ੍ਰਤੀ ਹਫ਼ਤਾ)**

ਅੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹੋਣਗੇ। ਹਰ ਭਾਗ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ 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 ਬਰਾਬਰ ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ-ਪ੍ਰਸ਼ਨਾਂ ਵਿੱਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠ-ਕ੍ਰਮ

ਸੈਕਸ਼ਨ-ਏ

ਪੰਜਾਬੀ ਸ਼ਬਦ ਬਣਤਰ : ਧਾਤੂ, ਵਧੇਤਰ (ਅਗੇਤਰ, ਮਧੇਤਰ, ਪਿਛੇਤਰ), ਪੰਜਾਬੀ ਕੋਸ਼ਗਤ ਸ਼ਬਦ ਅਤੇ ਵਿਆਕਰਣਿਕ ਸ਼ਬਦ

ਸੈਕਸ਼ਨ-ਬੀ

- (ੳ) ਸੰਯੁਕਤ ਸ਼ਬਦ, ਸਮਾਸੀ ਸ਼ਬਦ, ਦੋਜਾਤੀ ਸ਼ਬਦ, ਦੋਹਰੇ/ਦੁਹਰੁਕਤੀ ਸ਼ਬਦ ਅਤੇ ਮਿਸ਼ਰਤ ਸ਼ਬਦ
(ਅ) ਸਿਖਲਾਈ ਤੇ ਅਭਿਆਸ

ਸੈਕਸ਼ਨ-ਸੀ

ਇਕ-ਵਚਨ, ਬਹੁ-ਵਚਨ, ਲਿੰਗ-ਪੁਲਿੰਗ, ਬਹੁ-ਅਰਥਕ ਸ਼ਬਦ, ਸਮਾਨ-ਅਰਥਕ ਸ਼ਬਦ, ਬਹੁਤੇ ਸ਼ਬਦਾਂ ਲਈ ਇਕ ਸ਼ਬਦ, ਸ਼ਬਦ ਜੋੜ, ਵਿਰੋਧਆਰਥਕ ਸ਼ਬਦ।

ਸੈਕਸ਼ਨ-ਡੀ

ਨਿਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ: ਖਾਣ-ਪੀਣ, ਸਾਕਾਦਾਰੀ, ਰੁਤਾਂ, ਮਹੀਨਿਆਂ, ਗਿਣਤੀ, ਮੌਸਮ, ਮਾਰਕੀਟ/ਬਾਜ਼ਾਰ, ਵਪਾਰ, ਧੰਦਿਆਂ ਆਦਿ ਨਾਲ ਸੰਬੰਧਿਤ।

ਸਹਾਇਕ ਪੁਸਤਕਾਂ

1. ਜੋਤੀ ਸ਼ਰਮਾ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਊਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।
2. ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਬੋਧ, ਕਸਤੂਰੀ ਲਾਲ ਐਂਡ ਸੰਨਜ਼, ਅੰਮ੍ਰਿਤਸਰ।
3. ਮਿੰਨੀ ਸਲਵਾਨ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ : ਮੁਢਲੇ ਸੰਕਲਪ, ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।
4. ਰੰਜੂ ਬਾਲਾ, ਅਰਥ ਵਿਗਿਆਨ, ਆਰਸੀ ਪਬਲਿਸ਼ਰਜ਼, ਦਿਲੀ।
5. ਰੰਜੂ ਬਾਲਾ, ਅਰਥ ਵਿਗਿਆਨ, ਆਰਸੀ ਪਬਲਿਸ਼ਰਜ਼, ਦਿਲੀ।

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SEMESTER-II

**PHC111 :Punjab History & Culture (C. 320 to 1000 A.D.)
(Special Paper in lieu of Punjabi compulsory)
(For those students who are not domicile of Punjab)**

Time: 3 Hours

**Credits : 4-0-0
Max. Marks: 100**

Instructions for the Paper Setters:-

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION-A

1. Alexander's Invasion and its Impact
2. Punjab under Chandragupta Maurya and Ashoka.

SECTION-B

3. The Kushans and their Contribution to the Punjab.
4. The Panjab under the Gupta Empire.

SECTION-C

5. The Punjab under the Vardhana Emperors
6. Socio-cultural History of Punjab from 7th century to 1000 A.D.

SECTION-D

7. Development of languages and Education with Special reference to Taxila
8. Development of Art & Architecture

Suggested Readings

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

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SEMESTER – II

**SOA-105 DRUG ABUSE: PROBLEM, MANAGEMENT AND PREVENTION
(Value Added Course)**

Time: 3 Hours
Max. Marks: 50

Credits		
L	T	P
2	0	0

Instructions for the Paper Setters:-

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION – A

Meaning of Drug Abuse:

- 1) Meaning, Nature and Extent of Drug Abuse in India and Punjab.
- 2) Consequences of Drug Abuse for:

Individual	:	Education, Employment, Income.
Family	:	Violence.
Society	:	Crime.
Nation	:	Law and Order problem.

SECTION – B

Management of Drug Abuse:

- (i) Medical Management: Medication for treatment and to reduce withdrawal effects.
- (ii) Psychiatric Management: Counselling, Behavioural and Cognitive therapy.
- (iii) Social Management: Family, Group therapy and Environmental Intervention, Rehabilitation.

SECTION – C

Prevention of Drug abuse:

- (i) Role of family: Parent child relationship, Family support, Supervision, Shaping values, Active Scrutiny.
- (ii) School: Counselling, Teacher as role-model. Parent-teacher-Health Professional Coordination, Random testing on students.

SECTION – D

Controlling Drug Abuse:

- (i) Media: Restraint on advertisements of drugs, advertisements on bad effects of drugs, Publicity and media, Campaigns against drug abuse, Educational and awareness program
- (ii) Legislation: NDPs act, Statutory warnings, Policing of Borders, Checking Supply/Smuggling of Drugs, Strict enforcement of laws, Time bound trials.

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SEMESTER–II

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. Kessel, Neil and Henry Walton. 1982, *Alcoholism*. Harmond Worth: Penguin Books.
6. Modi, Ishwar and Modi, Shalini (1997) *Drugs: Addiction and Prevention*, Jaipur: Rawat Publication.
7. National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.
8. Ross Coomber and Others. 2013, *Key Concept in Drugs and Society*. New Delhi: Sage Publications.
9. Sain, Bhim 1991, *Drug Addiction Alcoholism, Smoking obscenity* New Delhi: Mittal Publications.
10. Sandhu, Ranvinder Singh, 2009, *Drug Addiction in Punjab: A Sociological Study*. Amritsar: Guru Nanak Dev University.
11. Singh, Chandra Paul 2000. *Alcohol and Dependence among Industrial Workers*: Delhi: Shipra.
12. Sussman, S and Ames, S.L. (2008). *Drug Abuse: Concepts, Prevention and Cessation*, Cambridge University Press.
13. Verma, P.S. 2017, “*Punjab’s Drug Problem: Contours and Characterstics*”, Economic and Political Weekly, Vol. LII, No. 3, P.P. 40-43.
14. World Drug Report 2016, United Nations office of Drug and Crime.
15. World Drug Report 2017, United Nations office of Drug and Crime.

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**Semester-II
USE-0012: ENTREPRENEURSHIP MINDSET-II
(Mandatory Skill Enhancement Course)**

Credits: 0+0+2

Total Marks: 50

Semester Snapshot - Semester 2

Entrepreneurship 102/201 (Marketing Basics)

Introduction

This semester helps learners understand marketing as a practical life skill - not just “advertising.” It teaches them how to communicate value, attract the right customers, and grow something small into something sustainable. Learners explore the basics of customer psychology, messaging, content creation, and simple sales strategies. Through hands-on activities, they will practice real marketing techniques for their micro-hustle or a simulated business idea, learning how to get attention, build trust, and generate sales.

Learners Objective

- Understand the core concepts of marketing using simple, relatable real-world examples.
- Learn how customers think, choose, and buy—and how businesses influence decisions ethically.
- Identify and define a target customer clearly instead of “selling to everyone.”
- Create clear messaging: what they sell, who it helps, and why it matters.
- Use basic marketing channels (offline + online) to attract customers.
- Run a simple marketing campaign and measure what worked.
- Build confidence in selling, promoting, and talking about their product/service.

Outcome

By the end of this semester, learners will be able to market a product/service using basic strategies, attract real customers, and improve their results through feedback and experimentation.

Guiding Principles/Approach

This syllabus is built on action-based learning, clarity-first communication, and customer-first thinking. Learners don’t just *study* marketing - they *practice* it in real situations through small experiments and repeated improvement. The course is designed to feel approachable and practical: learners create simple content, test messaging, talk to real people, and observe what influences decisions.

Instead of heavy theory, students build marketing skills through doing: customer discovery, storytelling, channel experiments, and reflection. The curriculum emphasizes confidence-building, ethical marketing, and communication as a leadership skill. By helping learners see results quickly (even small wins like one customer or one inquiry), the program builds motivation, creativity, and real-world business readiness.

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Semester 2 Curriculum

Recap Milestone

The recap milestone focuses on revising all the 12 milestones of semester 1 and also helps students understand the upcoming 12 milestones journey of semester 2.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
Recap	Recap and Introduction	Revise what you learned in Semester 1 and plan what you will do in Semester 2	1	Revise first 12 milestones of Semester 1	Watch a video on "Semester 1 summary"
					Download 12 summary cards of Semester 1 milestones
					Write 3 key learnings of Semester 1
					Write 3 things you will improve in semester 2
					Attempt Semester 1 Recap Quiz
			2	Set your goals for Semester 2	Learn how to 4X your revenue in Semester 02 using Marketing
					Read how famous brands use marketing to increase revenue
					Set your marketing goals
					Attempt Semester 2 Readiness Quiz

Marketing Fundamentals milestone focuses on helping students understand the basics of marketing and how they can use marketing to scale their businesses and generate revenue.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
13	Learn marketing fundamentals to scale your business	Learn how you can use multiple types of marketing to scale your business and grow your revenue	1	Understand what is marketing	Watch a video on marketing fundamentals
					Read examples of famous marketing campaigns in India
					Explain what you learned about marketing
					Attempt task 01 quiz
			2	Learn different types of digital marketing	Watch a video on what is digital marketing
					Read a document on types of digital marketing
					Write what what kind of digital marketing works best for your business and why
					Attempt task 02 quiz
			3	Write 3 marketing ideas for your business	Read a document on how businesses like yours are using marketing to generate revenue
					Write 3 marketing ideas to scale your business
Validate your ideas with 3-5 people					
Shortlist the best idea and explain how it will generate revenue					
				Share your experience of doing this milestone	
				Attempt task 03 quiz	

WhatsApp Community Marketing milestone focuses on helping students learn how to build a WhatsApp community for their users and use it to generate trust, engagement, and sales.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
14	Build and activate your WhatsApp community	Build a WhatsApp community for your users and use it to generate trust, engagement, and sales	1	Create your WhatsApp community	Watch a video on why you should build a WhatsApp Community
					Read a document on how to create a WhatsApp community
					Enter the name of your community
					Upload your WhatsApp community link
					Attempt task 01 quiz
			2	Invite people to join your WhatsApp community	Read a few sample invite and welcome messages
					Draft an invite message to invite 50 people to join your community
					Draft a welcome message for your community members
					Upload a screenshot of your welcome message
					Attempt task 02 quiz
			3	Engage your community users and start building trust	Learn 'how to engage people in your community'
					Read top 10 community engagement ideas for your business
					Write 5 types of content to post weekly in your community
					Create and upload your weekly calendar
					Attempt task 03 quiz
			4	Get 3 sales from your WhatsApp Community	Learn how to do soft-selling on community
					Create a community-only offer
					Learn how to convert interested people into paid customers
					Write a simple plan to generate 3 sales per month from the community
Share your experience of doing this milestone					
Attempt task 04 quiz					

AI-led Content creation and marketing milestone focuses on helping students learn how to use AI tools to generate creative ideas and create professional videos, posters, and blogs.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
15	Use AI to generate content for marketing	Learn how to use AI tools to generate creative ideas and create professional videos, posters, and blogs	1	Learn what is content marketing	Watch a video on 'what is content marketing'
					Learn which content works for brand awareness or revenue generation
					Write 3 types of content you believe your customers like
					Attempt task 01 quiz
			2	Generate content ideas to attract customers	Learn how to use AI to generate content marketing ideas for your business
					Generate 10 small content ideas to attract your customers
					Discuss the ideas with your users and take feedback
					Shortlist top 3 content ideas to attract customers
			3	Create your first brand video using AI	Attempt task 02 quiz
					Watch a video on "How to use AI tools to create simple short videos"
					Read this guide on how to ask AI to write a video script
					Generate 5 ideas for your AI videos and write them here
			4	Create a brand poster using AI	Upload your AI generated video link
					Attempt task 03 quiz
					Learn how to create a poster using AI
					Write a prompt for the poster will you create using AI
			5	Write a blog using AI	Upload the AI poster you have created
					Post this poster in your WhatsApp community
					Attempt task 04 quiz
					Learn how to use prompt engineering to write content for your business
Read list of topics on which you can write a blog					
Write the topic on which you will write a short blog					
					Write the first version of your blog
					Share your blog with your friends and faculty
					Share your experience of doing this milestone
					Attempt task 05 quiz

Social Media Marketing milestone focuses on helping students learn what social media marketing is and how to create a social media weekly plan that engages users and improves brand visibility.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
16	Plan your social media marketing strategy	Learn what is social media marketing and how can you execute it to scale your business	1	Learn what is social media marketing	Watch a video on "Introduction to Social media marketing"
					Learn different types of social media marketing
					Read a document on how to use social media marketing to generate revenue
					Write your understanding of social media marketing
					Write one social media marketing idea for your business
					Attempt Task 01 Quiz
			2	Research your competitors	Learn how to research your competitors
					Find your competitors
					Write top 3 things your competitors are posting
					Find one unique gap that you can capture
					Attempt task 02 quiz
			3	Finalize your content pillars	Watch a video on 'what are content pillars'
					Read examples of 'content pillars'
					Write 5 content pillars for your social media strategy
					Attempt task 03 quiz
			4	Create your weekly social media plan	Watch a video on 'how to create a weekly social media plan'
					Look at examples of 'social media calendar'
					Create and upload your weekly calendar
					Upload the link of your Instagram Channel
					Share your experience of doing this milestone
Attempt task 04 quiz					

Trust-led Marketing milestone focuses on helping students build trust through social media proofs, testimonials, or basic engagement and later converting them into leads and sales.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
17	Generate leads and turn them into sales	Use testimonials, conversations, and daily posts to generate leads and close sales.	1	Use social proof to build trust	Identify 2 happy customers
					Create a testimonial post with CTA
					Post testimonial on social media
					Post testimonial on the community
					Attempt task 01 quiz
			2	Make people share their problems	Learn how to ask open-ended questions
					List 5 customer problems
					Post these problems in community and social media
					Evaluate top 2 problems customers face
					Encourage people to share their problems
					Attempt task 02 quiz
			3	Help your users with 3-5 days content sprint and generate leads	Brainstorm or use AI to create a solution document for each problem
					Post solution to 1 problem on a daily basis
					DM people to check if your solution is helping them
					Write how many leads did you generate
					Attempt task 03 quiz
			4	Convert leads into sales	Learn how to convert leads into sales
					Soft sell your offering in community and social media
					DM people how can your product help them better
					Follow up after 24 to 48 hours
Write how many leads you converted into sales					
Share your experience of doing this milestone					
Attempt task 04 quiz					

Viral Marketing milestone focuses on helping students learn how to launch viral campaigns for their businesses using the latest trends and make their brand go viral without spending any money.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
18	Make your brand go viral	Design viral marketing campaigns to reach 5X users without spending any money	1	Learn viral marketing	Understand what is virality and how it works
					Read about top 10 viral marketing campaigns in India
					Write 3 reasons why people share content
					Attempt task 01 quiz
			2	Design 2 viral campaigns for your business	Learn 5 types of common viral marketing strategies
					Read 10 viral marketing ideas for your business
					Design 2 viral campaigns for your business
					Take feedback from people and finalize one campaign
					Set your campaign targets
					Attempt task 02 quiz
			3	Launch one viral campaign to increase customer reach	Create your campaign launch video or poster
					Create your campaign launch message
					Launch your campaign on your social media platform
					Launch your campaign in your WhatsApp community
					Attempt task 03 quiz
			4	Promote your campaign to make it viral	Share your campaign in other groups and forums
					Measure your campaign performance
					Learn how to improve your campaign
					Analyze your campaign and record final metrics
Enter the summary of your campaign					
Share your experience of doing this milestone					
Attempt task 04 quiz					

BTL/Offline Marketing milestone focuses on helping users learn about BTL (below the line) or offline marketing and use it to reach out to local customers and generate revenue.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
19	Drive revenue through offline/BTL marketing	Use offline activities to reach local customers and generate sales	1	Understand offline or BTL marketing	Watch a video on what is BTL marketing
					Read about famous BTL marketing campaigns
					Write how you can use BTL marketing for your business
					Attempt task 01 quiz
			2	Pick your offline marketing idea	Learn about common offline tactics for your business
					Write 1 offline marketing idea you can execute
					Design your brand poster for offline marketing
					Create your offline marketing offer or pitch
					Practice your pitch with friends and take feedback
			3	Execute offline marketing in local market	Attempt task 02 quiz
					Identify people or locations in local for offline marketing
					Pitch to at least 10 real customers
					Collect contact details for WhatsApp Community invite
Close at least one sale					
Write your offline marketing metrics					
Share your experience of doing this milestone					
Attempt task 03 quiz					

Collaboration and Affiliate Marketing milestone focuses on helping users learn about affiliate marketing and how to collaborate with individuals/businesses to reach more customers and generate revenue.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
20	Grow through collaboration and affiliation marketing	Use partners and affiliates to reach new audiences and generate sales	1	Understand affiliate marketing and collaboration	Watch a video on what is affiliate marketing
					Read about top collaboration or affiliate marketing campaigns
					Learn 10 common types of collaboration or affiliate marketing for your business
					Pick 3 types that can work for your business
					Attempt task 01 quiz
			2	Design your affiliation model	Learn how to start an affiliation program
					Decide your commission structure
					Write a pitch for partnership
					Attempt task 03 quiz
			3	Finalize one person or business for collaboration	Learn how to find a right partner for collaboration
					Create a list of 5 to 10 people or businesses for collaboration
					Send your partnership pitch to potential partners
					Write the name of one final partner
					Attempt task 03 quiz
			4	Execute the collaboration	Explain how will the partner market your brand
					Post the link or screenshot of successful collaboration
					Respond to new leads within 24 hours
					Close at least one sale
					Attempt task 04 quiz
			5	Measure your collaboration	Write number of leads generated
Write number of sales closed and revenue generated					
Write what worked and how to improve collaboration					
Share your experience of doing this milestone					
Attempt task 05 quiz					

Advertising Marketing milestone focuses on helping users learn how to post a paid ad on Meta (Instagram and Facebook) promoting their business and reach to more users or generate revenue.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
21	Run your first ad on Instagram	Learn how to boost posts or run simple video ads to reach new viewers	1	Setup your Meta Business Suite	Watch a video on why to run ads on Meta
					Learn different types of ads
					Read the guide on Meta Ad account setup
					Setup your Meta Ad account
					Attempt task 01 quiz
			2	Design your first paid ad	Watch samples of good ad designs for your business
					Finalize your ad objective
					Upload the final draft of your ad with final copy and creatives
					Attempt task 02 quiz
			3	Define your target audience and budget	Watch a video on 'how to target the right people for ad'
					Define your target audience
					Learn how to decide the right budget for your ad
					Decide your final budget
					Attempt task 03 quiz
			4	Launch your ad	Learn how to create and launch your ad
					Create your ad and review ad preview
					Upload the screenshot of launched ad
					Attempt task 04 quiz
			5	Manage incoming leads from ad	Draft a message for incoming leads
					Send draft message to leads within 24 hours
					Pitch your offer to leads and follow up
					Close at least one sale
					Attempt task 05 quiz
			6	Measure your ad performance	Learn metrics to measure ad performance
Write money spent and leads or impressions					
Mention CPL or CPM					
Write revenue generated and number of sales closed					
Write what worked and how to improve ads in future					
Share your experience of doing this milestone					
Attempt task 06 quiz					

Psychological Marketing milestone focuses on helping users identify psychological triggers like urgency, pricing, and offers, and use them to increase conversions and revenue.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
22	Use Psychological Triggers to Increase Sales	Learn how to use urgency, pricing, and offers to increase conversions and revenue	1	Understand the psychological triggers	Learn why people buy products
					Share a story of one product you purchased because of a trigger
					Identify buying triggers for your business
					Attempt task 01 quiz
			2	Execute FOMO or urgency marketing	Learn how to create a FOMO or urgency marketing campaign
					Write how will you create FOMO or urgency for your customers
					Create one FOMO/urgency marketing campaign
					Launch your campaign on social media and community
					Attempt task 02 quiz
			3	Execute one offer or discount marketing campaign	Learn how to create offer or discounting marketing campaigns
					Write how will you create an offer/discount campaign
					Create one offer/discount campaign for your customers
					Launch your campaign on social media and community
Share your experience of doing this milestone					
Attempt task 03 quiz					

Data-Driven Marketing milestone focuses on helping users analyze the data of the last 10 milestones and run specific campaigns or ideas that resulted in lead generation or revenue.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
23	Use Data-Driven Marketing to Grow Faster	Analyze data of the last 10 milestones to identify top campaigns or ideas and decide what to continue, improve, or stop.	1	Analyze your marketing data	Learn how businesses make decisions using data
					List 3 things that worked well and why
					List 3 things that didn't work well and why
					Attempt task 01 quiz
			2	Re-execute top performing campaign	Re-execute top 1-2 campaigns for 1 week
					Write how it helped generate leads or revenue
					Attempt task 02 quiz
			3	Improve one low performing campaign and relaunch it	Pick one low performing campaign and write how to improve it
					Improve the campaign and relaunch it
					Measure its performance and see if it was better
Share your experience of doing this milestone					
Attempt task 03 quiz					

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Milestone 24: Closure and Next Step

The final milestone focuses on helping users reflect on their learnings and also create an action plan for the next few months to continue to scale and grow their business.

Milestone #	Milestone Name	Milestone Description	Task #	Task Title	Activity title
24	Plan your next growth phase	Document your 12 weeks of learning and create a 1 month plan to scale and grow your business	1	Review your progress	List all the ideas you executed
					Write which milestone helped you the most and how
					Write which milestone helped you the least and why
					Write your key learnings from this semester
					Create a not-to-do list for your business
					Attempt task 01 quiz
			2	Create your 1 month marketing plan	Learn how to create a 1 month marketing plan
					Set your marketing goal
					Create and upload your 1 month plan to achieve this goal
					Share your experience of doing this milestone
					Attempt final semester quiz

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Evaluation Criteria

The evaluation will be conducted by a committee consisting of the class mentor, nodal officer and the principal HOD or his/her nominee.

Evaluation Component	Description	Weightage
Weekly Task Completion	Timely submission of weekly tasks, including activities, reflection prompts, graded quizzes etc	60%
Target Completion	Performance-based evaluation on hitting revenue or Profit targets (e.g., generating ₹ 10,000 revenue)	20%
Final Project	A comprehensive project depending the theme of the Semester	20%

Evaluation Mechanism: The score generated by the app will be final.

Weekly Component:

Each week of the course follows a structured format designed to guide students from learning to doing, using simple, mobile-accessible components:

Component	Duration	Description
Action Lab	~4hrs	- Hands-on task on the weekly concept - Includes step-by-step guidance, templates, and worksheets - Ends with a submission (e.g., video, reflection, or proof of action)
Learning Resources	Self-paced	- Videos, short readings, real-life stories, and tools to deepen understanding at their own pace
Check-in	Self-paced	- Quizzes & Reflection prompts

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Syllabus Overview for Semester 1-5

Semester	Learning Focus	Learner's demonstration	Revenue Target
1	Setup & Launch	Understand. Create. Start.	₹ 10,000/-
2	Marketing Basics	Engage. Share. Grow.	₹ 40,000/-
3	Operations & Scale	Earn. Deliver. Expand.	₹ 80,000/-
4	Organic Growth	Attract. Retain. Build.	₹ 160,000/-
5	AI Automation & Finance mastery	Simplify. Track. Sustain	₹ 400,000/-

Semester 1: Setup & Launch

In Term 1, students will explore what entrepreneurship means and how it connects to their daily lives. They will learn to identify problems, shape simple business ideas, and test the market settings. This semester builds the foundation—mindset, observation, value creation, and action.

Semester 2: Marketing Basics

In Term 2, students will learn how to attract customers and grow their visibility using digital platforms and community-based marketing strategies. Students will also begin to run paid advertising campaigns and learn how to optimize their marketing efforts.

Semester 3: Operations & Scale

This semester focuses on the day-to-day operations of running a business, including order fulfillment, customer service, and logistics. Students will also focus on scaling operations as demand grows, with an emphasis on managing resources effectively.

Semester 4: Organic Growth

Students will learn how to grow their businesses organically, using referrals, partnerships, and community engagement. This semester focuses on building a loyal customer base and using word-of-mouth marketing to increase reach and credibility.

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Semester 5: AI Automation & Financial Mastery

The final semester prepares students for long-term sustainability. Students integrate AI to improve productivity, automate routine tasks, and enhance decision-making. They also dive deep into financial planning, learning to set income goals, track expenses, understand profit margins, and create simple financial forecasts. This semester helps students solidify their entrepreneurial identity design systems for financial stability and scalability.

Course Outcomes:-

After studying this course, students will be able to:

- Launch and manage a business within their chosen track.
- Identify profitable opportunities and develop innovative solutions.
- Implement marketing and sales strategies using both digital and traditional methods.
- Use financial metrics to track performance and make informed business decisions.
- Scale a business using operational systems and automation tools.

Suggested Readings:-

- Simon Sinek, *Start with Why: How Great Leaders Inspire Everyone to Take Action*, Portfolio/Penguin
- Eric Ries, *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*, Crown Business
- Jonah Berger, *Contagious: How to Build Word of Mouth in the Digital Age*, Simon & Schuster
- Phil Knight, *Shoe Dog: A Memoir by the Creator of Nike*, Scribner
- Jason Fried and David Heinemeier Hansson, *Rework: Change the Way You Work Forever*, Crown Business
- Héctor García and Francesc Miralles, *Ikigai: The Japanese Secret to a Long and Happy Life*, Penguin Books
- Tim Ferriss, *Tools of Titans (Selected Chapters)*, Houghton Mifflin Harcourt
- Peter Thiel and Blake Masters, *Zero to One: Notes on Startups, or How to Build the Future*, Crown Business
- Anil Lamba, *Romancing the Balance Sheet*, Anil Lamba Publications
- The Better India/Your Story, *Young Entrepreneurs Series* (Collection of Articles) Real Indian stories of youth starting businesses, snackable reads that show what's possible.

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**SEMESTER–III
BSD03001T: DATABASE SYSTEM**

Credits
L T P
3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION–A

Basic Concepts: Database, Database system, Database management system, Data independence, advantages and disadvantages, 3 level architecture and mapping DBMS vs. File System, DBA's Role, RDBMS.

Data Models: Relational model, Hierarchical model, Network model, comparison of these model, An overview of the E/R Model, E/R diagrams, Database design with the E/R model

SECTION–B

Normalization: Introduction to Normalization, Need of Normalization, various forms of Normalization (1NF, 2NF, 3NF, BCNF)

SQL: Introduction, Data Definition Language (DDL), Data Manipulation Language (DML), Data Control Language (DCL) statements, Views, Sub-queries, Access Rights.

SECTION–C

Transaction Management and Concurrency Control: Introduction to Transaction Processing, Properties of Transactions, Concurrency Control, purpose of concurrency control, Techniques for concurrency control,

SECTION–D

Database Recovery of database: Introduction, Need for Recovery, Recovery Techniques.

Database Security: Introduction, Threats, Counter Measures.

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SEMESTER–III

Reference Books:

1. C.J. Date: *An Introduction of Database System*”, The Systems Programming Series, 6/Ed, Addison-Wesley Publishing Company, Inc., 1995.
2. Silberschatz, Korth & Sudarshan, “*Database System Concepts*”, Third Ed., McGraw Hill International Editions, Computer Science Series-1997.
3. Parteek Bhatia and Gurvinder Singh, “Simplified Approach to DBMS”, Kalyani Publishers, 2010.
4. Ivan Bayross, “SQL/PLSQL: The Programming Language of Oracle, 3rd Revised Edition, 2006.

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**SEMESTER–III
BSD03002T: JAVA PROGRAMMING**

Credits
L T P
3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION–A

Introduction: Evolution of Java, Importance of JAVA to Internet, Features of JAVA, Byte code, Object Oriented Approach, Data types, Type Conversion and Casting, One Dimensional and Multidimensional arrays

Operators and Control Structures: Arithmetic, Bitwise, Relational, Boolean, Assignment Operators, Operator precedence, Selection Statements, Iteration Statements, Jump statements.

SECTION–B

Classes: Class Fundamentals, Declaring objects, introducing methods, constructors, this keyword, Overloading constructors, Recursion, Nested and Inner classes.

Inheritance: Basics, Creating Multilevel hierarchy, Method Overriding, Abstract Classes.

SECTION–C

Packages and Interface: Packages, Access Protection, Importing Packages, Interfaces, Defining, Implementing, Applying Interfaces, Extending Interfaces

Exception Handling: Fundamentals, Exception Types, uncaught exceptions, try and catch.

SECTION–D

Applets: Applet Basics, Applet Architecture, Applet: Display, Repaint, Parameter Passing, wrapper class

AWT: Window Fundamentals, Working with Frame Windows, Graphics, Color and Fonts, Swings.

Recommended Books:

1. Patrick Naughton & Herbert Schildt: The Complete Reference Java 2, Tata McGraw Hill Edition
2. Paul Deitel & Harvey Deitel: Java, How to Program, PHI Learning Private Limited Edition.
3. Balagurusamy: Programming in JAVA.

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SEMESTER–III

BSD03003T: SOFTWARE ENGINEERING METHODOLOGY

Credits

L T P

3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION–A

Introduction to Software Engineering: Definition, Software characteristics, Software components, Software crisis, Software Applications, Software Engineering Paradigms, Software Development Life Cycle

Software Project Management: Introduction, Project planning, metrics for project size estimation, project estimation techniques, Cost estimation, COCOMO model, Project scheduling and milestones

SECTION–B

Software Requirement Specification (SRS): Definition, Problem analysis, structuring information, Data flow diagram and data dictionary, structured analysis, Characteristics and component of (SRS), Metrics of SRS

SECTION–C

Software Design and coding: Introduction, classification of design activities and design Methodologies, Cohesion and Coupling, Verification and validation, approaches to software design, introduction to various design approaches, Structured programming, Coding standards and guidelines.

SECTION–D

Software Testing and metrics: Software Testing, levels of testing, Test case design, Design metrics, Coding metrics, Technical metrics, testing metrics.

Software maintenance: Definition need and types of Software maintenance

Trends in Software Engineering: Reverse Engineering, Re-engineering, CASE Tools

References:

1. Pressman: Software Engineering: A Practitioner's Approach, 3rd Ed., TMH 2004
2. Flecher and Hunt: Software Engineering and CASE: Bridging and Culture G
3. An Integrated Approach to Software Engineering, Second Edition, Pankaj Jalote
4. Fundamentals of Software Engineering, Rajib Mall

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SEMESTER–III

BSD03004L: LAB-I: Lab based on SQL & PL/SQL

Credits

L T P

0 0 2

Time: 3 Hrs.

Max. Marks: 50

Practical Lab based on SQL and PL/SQL

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SEMESTER–III

BSD03005L: LAB – II: JAVA PROGRAMMING

Credits

L T P

0 0 2

Time: 3 Hrs.

Max. Marks: 50

Practical based on Programming in JAVA

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SEMESTER–III

**BSD03006L: CRUD APPLICATION DEVELOPMENT USING PHP & MYSQL
PRACTICAL**

Credits
L T P
0 0 4

Time: 3 Hrs.

Max. Marks: 100

Demonstration of Open source software's installation-Install and Configure PHP, Web server XAMP/WAMP etc. ,MySQL.

Embedding and running PHP Code inside HTML Document. PHP variables, PHP program using expressions and operators.Design HTML form and retrieve the values in PHP script.

PHP program to demonstrate the use of Decision making control structures usingIf statement , If-else statement and Switch statement.

Demonstrating the use of Looping structures using- While statement , Do-while statement, For statement andForeach statement. PHP arrays (array multiplication, addition ...etc).

PHP Functions: array, string, date-time, and calendar. Creating PDF document by using graphics, Develop web page with data validation.

PHP script for File uploading.PHP script for-Session Management (login form). Set cookies and read it. . Demonstrate session management. Develop a simple application to - a) Enter data into database b) Retrieve and present data from database

PHP program for sending and receiving plain text message (e -mail).

AJAX Script using XMLHttpRequest, Data Formats, PHP.

PHP script to update and retrieve data stored in database from user using Ajax

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SEMESTER-IV

BSD04001T: OPEN SOURCE SOFTWARE

Credits

L T P

3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION-A

Open Source Software: Introduction to Open Source Software, Need of Open Source Software, Advantages of Open Source Software, Application of Open Source Software, Categories of Open Source Software and Specific Characteristics of OSS.

Organization and Management of OSS: OSS development Process, Taboos and norms in OSS development, The OSS development life cycle

SECTION-B

Development of OSS: Methodology and languages used to develop open source products, Cross Platform code

Software and Intellectual Property Rights: Basic Principles of Copyright Law, Contracts, Patents, Licenses, Issues with copyrights and patents, Open Source Software Licensing

SECTION-C

Open source operating systems: LINUX: Introduction, General Overview, Kernel Mode and user mode, Process, Advanced Concepts, Scheduling, Personalities, Cloning, Signals, Development with Linux.

SECTION-D

Open Source Database: MYSQL: Introduction, Setting up account, starting, terminating and writing your own SQL programs, Record selection Technology, Working with strings, Date and Time, Sorting Query Results, Generating Summary, Working with metadata Using sequences, MYSQL and Web.

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SEMESTER–IV

Books Recommended:

1. Joseph Feller & Brian Fitzgerald, Understanding Open Source Software Development, Pearson Education Limited, 2002.
2. Paul Kavanagh, Open Source Software: Implementation and Management, Elsevier Digital Press, 2004.
3. Remy Card, Eric Dumas and Frank Mevel, “The Linux Kernel Book”, Wiley Publications, 2003
4. Steve Suchring, “MySQL Bible”, John Wiley, 2002
5. Joseph Feller, Perspectives on Free and Open Source Software, MIT Press Books, 2005.
6. Chris Dibona, Danese Cooper, Mark Stone, Open Sources 2.0, The Continuing Evolution, O’ Reilly, 2006.

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**SEMESTER-IV
BSD04002T: INFORMATION SECURITY**

Credits
L T P
3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION-A

Introduction to Security: Meaning of Security, Attacks, Computer Crime, Methods of Defense

Encryption: Cryptography, Substitution Ciphers, Transpositions, Encryption Algorithms, Symmetric Encryption Data Encryption Standards (DES), Advanced Encryption Standards(AES), Public Key Encryption, Hash Functions, Key exchange, Digital Signatures.

SECTION-B

Viruses and Malicious Code: Program security, Control against Program Threats

Operating Systems Security: Access Control, File Protection, User Authentication, Security Policies, Models of Security

SECTION-C

Database Security: Security requirements, Reliability and Integrity, Protecting sensitive data, multilevel security

Security in Networks Threats, Attacks, Protocol Flaws, Impersonation, Spoofing, Denial of Service, Networks security control,

Security in Networks Firewalls, Intrusion Detection, Secure e-mail

SECTION-D

Risk Analysis and Security Planning Security Policies, Physical Security

Legal and Ethical Issues: Protection of data and Information Laws, Employees rights, Software failure, Computer Crime, Privacy and Ethics

References:

1. The Basics of Information Security: Understanding the Fundamentals of InfoSec in Theory and Practice by Jason Andress Syngress; 1 edition (June 24, 2011)
2. Information Systems Security: Security Management, Metrics, Frameworks And Best Practices by Nina Godbole, Wiley India Pvt Ltd

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SEMESTER-IV

BSD04003T: INTRODUCTION TO PYTHON PROGRAMMING

Credits

L T P

3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION-A

Introduction to Python: Python's Technical Strengths, Execution Model, Process of Computational Problem Solving, Different ways to run Python Programs.

Data and Expressions: Literals, Variables and Identifiers, Operators, Expressions, Strings, Statements and Data Types, Boolean Expressions (Conditions), Logical Operators, Selection Control, Nested conditions, Debugging

Lists & Dictionaries: List Structures, Lists (Sequences) in Python, Iterating Over Lists (Sequences) in Python, Dictionaries and Files, Looping and dictionaries, Advanced text parsing

SECTION-B

Control Structures: Conditional blocks using if, else and elif, While statement, Definite loops using For, Loop Patterns, Functions, Packages and Modules: Fundamental Concepts, Program Routines, Flow of Execution, Parameters & Arguments, Recursive Functions, Recursive Problem Solving, Iteration vs. Recursion, Understanding Packages, Modules, Top-Down Design, Python Modules Importing own module as well as external modules and packages.

SECTION-C

Files: Opening Files, Using Text Files, Reading files, Writing files, Understanding read functions, read(), read line() and read lines(), Understanding write functions, write() and writelines (), Manipulating file pointer using seek, String Processing, Exception Handling Objects and Their Use

SECTION- D

Object Oriented Programming: Introduction to Object Oriented Programming, Concept of class, object and instances, Constructor, class attributes and destructors, Real time use of class in live projects, Inheritance, overlapping and overloading operators, Adding and retrieving dynamic attributes of classes, Programming using OOps support

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SEMESTER-IV

Reference Books:

1. Python for Informatics, Charles Severance, version 0.0.7
2. Introduction to Computer Science Using Python: A Computational Problem-Solving Focus, Charles Dierbach, Wiley Publications, 2012, ISBN : 978-0-470-91204-1
3. Introduction To Computation And Programming Using Python, GUTTAG JOHN V, PHI, 2014, ISBN-13: 978-8120348660
4. Introduction to Computing & Problem Solving Through Python, Jeeva Jose and Sojan P.Lal, Khanna Publishers, 2015, ISBN-13: 978-9382609810
5. Introduction to Computing and Programming in Python, Mark J. Guzdial, Pearson Education, 2015, ISBN-13: 978-9332556591
6. Fundamentals of Python by Kenneth Lambert, Course Technology, Cengage Learning, 2015
7. Learning Python by Mark Lutz, 5th Edition, O'Reilly Media, 2013

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SEMESTER-IV

BSD04004L: LAB I: PRACTICAL BASED ON ANDROID DEVELOPMENT

Credits

L T P

0 0 2

Time: 3 Hrs.

Max. Marks: 50

Practical based on Application Development in Android

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SEMESTER-IV

BSD04005L: LAB – II: PRACTICAL BASED ON PYTHON PROGRAMMING

Credits
L T P
0 0 2

Time: 3 Hrs.

Max. Marks: 50

Practical based on PYTHON Programming Language

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SEMESTER–IV

BSD04006L: MINOR PROJECT

Credits

L T P

0 0 4

Time: 3 Hrs.

Max. Marks: 100

Minor Project: Software Module based on Web Technology/Database/ Programming Language.

General Instructions:

1. The Software Module of the Minor Project shall be submitted to the College/Institute before examination.
2. The minor project shall be developed in groups, consisting of at most two students in a group.
3. The evaluation of the Minor Project (Software Module) shall be done by one external examiner appointed by the University and one internal examiner from College (as per other practical examination)

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SEMESTER-IV

ESL222 : Environmental Studies (Value Added Course)

Time: 3 Hrs.

Credits : 2-0-0

Max. Marks : 50

Instructions for the Paper Setters:-

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

Section-A

1. The multidisciplinary nature of environmental studies

- Definition, scope and importance, Need for public awareness

2. Natural Resource and associated problems

- Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
- Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
- Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
- Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
- Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies.
- Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.
 - a) Role of an individual in conservation of natural resources.
 - b) Equitable use of resources for sustainable lifestyles.

Section-B

3. Ecosystems

- Concept of an ecosystem
- Structure and function of an ecosystem
- Producers, consumers and decomposers
- Energy flow in the ecosystem
- Ecological succession
- Food chains, food webs and ecological pyramids
- Introduction, types, characteristic features, structure and function of the following ecosystem: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, ocean estuaries)

4. Biodiversity and its conservation

- Introduction – Definition: genetic, species and ecosystem diversity
- Biogeographical classification of India
- Value of biodiversity: consumptive use, productive use, social, ethical aesthetic and option values
- Biodiversity at global, national and local levels
- India as a mega-diversity nation
- Hot-spots of biodiversity
- Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts
- Endangered and endemic species of India
- Conservation of biodiversity: *In-situ* and *Ex-situ* conservation of biodiversity

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Section-C

5. Environnemental Pollution

- Définition, causes, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear pollution
- Solid waste management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution
- Pollution case studies
- Disaster management: floods, earthquake, cyclone and landslides

6. Social Issues and the Environment

- From unsustainable to sustainable development
- Urban problems and related to energy
- Water conservation, rain water harvesting, watershed management
- Resettlement and rehabilitation of people; its problems and concerns. Case studies.
- Environmental ethics: Issues and possible solutions
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
- Waste land reclamation
- Consumerism and waste products
- Public awareness

Section-D

7. Human Population and the Environment

- Population growth, variation among nations
- Population explosion – Family Welfare Programmes
- Environment and human health
- Human Rights
- Value Education
- HIV / AIDS
- Women and Child Welfare
- Role of Information Technology in Environment and Human Health

8. Introduction to Environmental Laws, Environmental Audit and Impact Assessment

- Constitutional provisions- Article 48A
- Article 51A(g) and other derived environmental rights
- Environmental Protection Act, 1986
- Air (Prevention and Control of Pollution) Act, 1981
- Water (Prevention and control of Pollution) Act, 1974
- Wildlife Protection Act
- Forest Conservation Act
- Issues involved in enforcement of environmental legislation
- Environmental risk assessment Pollution control and management
- Waste Management- Concept of 3R (Reduce, Recycle and Reuse)
- Ecolabeling /Ecomark scheme

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Course Objectives:

At the end of this course, the students should be able to understand the scope and importance of environmental studies, different natural resources (forests, minerals, energy, water, land, food, biodiversity) and their utilization as well as conservation methods; importance of ecosystem structure and function; different types of environmental pollution (air, water, soil, thermal, nuclear and noise), Environmental Law and remedial methods. The students will also have to be introduced to various Acts and Last but not least the students should be made aware of the consequences of population explosion; diseases such as HIV/AIDS and various family welfare programs.

Learning Outcome:

- The present subject will help the student to gain knowledge about the effects of environmental pollution and remediation.
- Visiting to a local polluted site (including urban / rural / industrial / agricultural) will help to students to identify the causes, effects and remedial measures.
- After understanding the role of individual in conservation of environment, every individual would be able to follow the sustainable lifestyle patterns.
- The knowledge on environmental protection Acts and Rules will give them valuable glance on legal aspects towards conservation of environment.

References:

1. Bharucha, E. 2005. Textbook of Environmental Studies, Universities Press, Hyderabad.
2. Down to Earth, Centre for Science and Environment, New Delhi.
3. Heywood, V.H. & Waston, R.T. 1995. Global Biodiversity Assessment, Cambridge House, Delhi.
4. Joseph, K. & Nagendran, R. 2004. Essentials of Environmental Studies, Pearson Education (Singapore) Pte. Ltd., Delhi.
5. Kaushik, A. & Kaushik, C.P. 2004. Perspective in Environmental Studies, New Age International (P) Ltd, New Delhi.
6. Rajagopalan, R. 2011. Environmental Studies from Crisis to Cure. Oxford University Press, New Delhi.
7. Sharma, J. P., Sharma. N.K. & Yadav, N.S. 2005. Comprehensive Environmental Studies, Laxmi Publications, New Delhi.
8. Sharma, P. D. 2009. Ecology and Environment, Rastogi Publications, Meerut.
9. State of India's Environment 2018 by Centre for Sciences and Environment, New Delhi
10. Subramanian, V. 2002. A Text Book in Environmental Sciences, Narosa Publishing House, New Delhi.

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SEMESTER–V

BSD05001T: OPERATING SYSTEM

Credits

L T P

3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION–A

Introduction: Definition, Early Systems, Simple Batch system, Multi programmed Batch. Time Sharing Systems, Personal Computer System, Parallel Systems, Distributed Systems, Real–time Systems.

Processes: Process concepts, Process Scheduling, threads.

SECTION–B

CPU–Scheduling: Basic concepts, scheduling criteria, scheduling algorithms, algorithm evaluation.

Process Synchronization: Background critical – section problem, semaphores, classical problem of synchronization.

SECTION–C

Memory Management: Background, Logical v/s Physical address space, mapping, continuous allocation, paging, segmentation.

Virtual Memory: Background, demand paging, performance of demand paging, page replacement, page replacement algorithms, allocation of frames, thrashing.

SECTION–D

Secondary Storage Structures: Disk structures, Disk scheduling, Disk Reliability.

Deadlocks: System Model, Deadlock characterization, methods for handling deadlocks, Deadlocks Prevention, Deadlock avoidance, Deadlock detection, Recovery from deadlock, combined approach to deadlock handling.

References:

1. “Operating System Concepts”, Fourth edition by Silberschatz Galvin Addison Wesley.
2. “Operating Systems: A Design Oriented Approach” by Crowley, Published by Tata McGraw Hill.
3. “Operating Systems” Second edition by Dietel, Addison Wesley.

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SEMESTER-V

BSD05002T: ADVANCED SOFTWARE ENGINEERING

Credits

L T P

3 1 0

Time: 3 Hrs.

Max. Marks: 100

Instructions for the Paper Setters: -

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION- A

Introduction to Software Project Management: Project Definition, Contract Management, Activities covered By Software Project Management, Monitoring and Control, Risk Management , Nature Of Risk , Types Of Risk , Managing Risk.

Team Management and Business Solution: Managing People and Organizing Teams, Working in Groups, Becoming A Team, Decision Making, Leadership, Business Intelligence tools, E-commerce: types, web based business, ERP, EDI.

SECTION -B

Introduction to Software Re-engineering: Software reengineering process model.

Code and Data restructuring: Characteristics of unstructured code, Characteristics of structured code, Restructuring problems. Data restructuring (Data reengineering), Data reengineering process, Data problems, Refactoring and design, Different refactoring techniques

Reverse and Forward Engineering: Reverse engineering process and tools for reverse engineering. Introduction to forward engineering, Goals of forward engineering, forward engineering v/s reverse engineering

SECTION- C

Software Quality Assurance Concepts and Standards: Quality Concepts, Quality Control, Quality Assurance, SQA Activities, Software Reviews, Formal Technical Reviews, Review Guidelines, Software Reliability, Software Safety, Quality Assurance Standards, ISO 9000, ISO 9001:2000, ISO 9126 Quality Factors, CMM, TQM, Six Sigma, SPICE, Software Quality Assurance Metrics.

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SEMESTER–V

SECTION- D

Object Oriented Testing Methods: Applicability of Conventional Test Case Design Methods, Issues in Object Oriented Testing, Fault-Based Testing, Scenario-Based Testing, Random Testing and Partition Testing for Classes, Interclass Test Case Design. Requirement Phase, Design Phase and Program Phase Testing, Testing Client/Server Systems, Testing Web based Systems, Testing in Multiplatform Environment, Testing for Real Time Systems

RECOMMENDED BOOKS:

Software Engineering, A Practitioner's Approach, Roger S. Pressman, 6th Edition.

Software Project Management, Bob Hughes, Mike Cotterell, Third Edition, Tata McGraw Hill, 2004.

Software Engineering, Ian Sommerville, Addison-Wesley, 6th Edition

**Bachelor of Vocation (Software Development) (CBGS)
Syllabus for the batch from year 2025 to 2028**

SEMESTER–V

BSD05003L: WEB DEVELOPMENT FRAMEWORK- FLASK (PRACTICAL)

Credits

L T P

0 0 2

Time: 3 Hrs.

Max. Marks: 50

Installation and Configuration

Templates- Template folder structure, Jinja Syntax (Variables, Rendering Files)
Static Files (Images, Files, Media)

Forms

Web Forms (Basic Forms, Using Bootstrap), Rendering HTML Forms, Rendering Forms using classes, Handling Forms in View Functions, Message Flashing (Success, Error, Warning, Custom), Redirects

Basic Application Structure, Flask Extensions , **Templates**

Web Forms- Configuration, Form Classes, HTML Rendering of Forms, Form Handling in View Functions, Redirects and User Sessions, Message Flashing

Databases- SQL Databases, Python Database Frameworks, Database Management with Flask-SQLAlchemy, Model Definition, Relationships, Database Operations

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SEMESTER–V

BSD05004L: LAB I: SOFT SKILLS IN IT

Credits
L T P
0 0 2

Time: 3 Hrs.

Max. Marks: 50

Verbal Communication: Public speaking, group discussion, presentation skills, interview skills, listening and observation skills.

Written communication: project proposals, Technical reports, grammar and vocabulary for effective technical writing, Technical resume

Personality Development: Personal grooming, Dressing for interviews, dressing for office, leadership, group dynamics and team building, conflict management, Critical Thinking, Reflective Thinking and Decision making, problem Solving Skills and Time management

Technical etiquettes: Etiquettes in office as well as social settings, email etiquettes, telephone etiquettes.

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SEMESTER–V

BSD05005L: LAB II: SYSTEM AND NETWORK ADMINISTRATION

Credits

L T P

0 0 4

Time: 3 Hrs.

Max. Marks: 100

Lab based on System and Network Administration

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SEMESTER-V

BSD05006L: LAB III: SOFTWARE TESTING (CASE TOOLS)

Credits

L T P

0 0 4

Time: 3 Hrs.

Max. Marks: 100

Practical Based on Software Testing (Case Tools)

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SEMESTER-VI

BSD06001L: - PROJECT DISSERTATION

Credits

L T P

0 0 22

M. Marks: 550

(Industrial Training and Project in Software/IT industry)

General Instructions:

Report based on Industrial Training and project shall be submitted to the College/Institute till April 30.

The evaluation of the work shall be done by the following panel of examiners prior to the theory examination:

- a) Internal Examiner
- b) Head/ Head Nominee of coordinating department of the college for this UGC scheme
- c) External Examiner (to be appointed by the University)

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SEMESTER-VI

PSL061: HUMAN RIGHTS AND CONSTITUTIONAL DUTIES

(Value Added Course)

Time: 3 Hrs:

Credit: 2

Total Marks: 50

Instructions for the Paper Setters:

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). 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.

SECTION – A

INTRODUCTION TO HUMAN RIGHTS

Foundational Aspects: Meaning, Nature, Characteristic, Classification.

International Framework: Constituents of the Universal Declaration of Human Rights (UDHR).

SECTION-B

INDIAN PERSPECTIVE OF HUMAN RIGHTS

Constitutional Realisation in India: Fundamental Rights (Part III, Constitution of India).

Protective Mechanism in India: The composition, Powers and Functions of the National Human Rights Commission of India (NHRC).

SECTION – C

INTRODUCTION TO HUMAN DUTIES

Conceptual Perspective: Meaning, Nature & Characteristics of Human Duties.

Intellectual discourses: Classification of Human Duties; Relevance of Human Duties

SECTION – D

INDIAN PERSPECTIVE OF HUMAN DUTIES

Constitutional Recognition in India: Fundamental Duties in Indian Constitution, Part IV A.

Intellectual Discourse: Critical Analysis and Significance of Fundamental Duties

Readings List

1. United Nations. *The United Nations and Human Rights 1945-1995*. Geneva: United Nations Blue Books Series, Vol. VII, 1996.
2. Sastry, S. N. *Introduction to Human Rights and Duties*. Pune: University of Pune Press, 2011.
3. Mertus, Julie. *The United Nations and Human Rights-A Guide for a New Era*. London: Routledge, 2009.
4. Donnelly, Jack. *Universal Human Rights in Theory and Practice*. New York: Cornell University Press, 2013.
5. Hammarberg, Thomas. *Taking Duties Seriously- Individual Duties in International Humanitarian Law*. Versoix: International Council on Human Policy, 1999.
6. Miller P. Frederic, et al. *Fundamental Rights, Directive Principles and Fundamental Duties in India*. New York: VDM Publishing, 2009.
7. Cinganelli, Davis Louis. *Human Rights- Theory and Measurements*. London: Macmillan Press, 1988.
8. Ishay, M. R. *The History of Human Rights*. New Delhi: Orient Longman, 2004.
9. Mohapatra, Arun Ray. *National Human Rights Commission of India: Formation, Functioning and Future Perspectives*. New Delhi: Atlantic, 2004.
10. Deol, Satnam Singh. *Human Rights in India-Theory and Practice*. New Delhi: Serials Publications, 2011