

Govt. College, Aharwala (Bilaspur)

Lesson Plan (2025-26) [Odd Semester]

Name of Teacher	Dr. Sunil Taneja
Class/Section/Group	BCA-I Group-1
Details of Semester/Course Name/Course Code	Semester: 1st Course Name: Basic IT Tools Course Code: B23-SEC-103

Practical List

22nd July 2025 to 31st August 2025

- 1) To design block diagram of Computer.
- 2) To identify the various parts of computer.
- 3) Using computer/mobile software and hardware.

1st September 2025 to 30th September 2025

- 1) Using basic features of Operating System.
- 2) Use of operating system for various tasks such as file creation, directory creation, shortcut creation, using control panel, etc.
- 3) Using Internet & various browsers.

1st October 2025 to 18th October 2025

- 1) Identify the various hardware/software required for Internet.
- 2) How to create and use e-mail account.
- 3) Exploring features of different web browsers.

27th October 2025 to 24th November 2025

- 1) Exploring Social Networking using Facebook, Twitter, LinkedIn, Instagram.
- 2) Exploring Instant Messaging using WhatsApp, Facebook Messenger, Telegram.
- 3) Explore writing blogs.

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Lesson Plan (2025-26) [Odd Semester]

Name of Teacher	Dr. Sunil Taneja
Class/Section/Group	BCA-II Group-1
Details of Semester/Course Name/Course Code	Semester: 3rd Course Name: Java OOP Foundations Course Code: B23-CAP-301

Practical List

22nd July 2025 to 31st August 2025

1. WAP to find the sum of 10 numbers, entered as command line arguments.
2. WAP to find the area of rectangle and circle using Interface.
3. Write a Java program to perform basic Calculator operations.
4. Write a Java program to calculate a Factorial of a number.
5. Write a Java program to calculate Fibonacci Series up to n numbers.

1st September 2025 to 30th September 2025

1. Write a Java program to find out whether the given String is Palindrome or not.
2. Write a Java program to calculate Permutation and Combination of 2 numbers.
3. Write a Java Program to reverse the letters present in the given String.
4. Write a Java Program to find the Transpose of a given Matrix.
5. Write a Java Program to multiply two matrices.

1st October 2025 to 18th October 2025

1. WAP to implement multiple inheritance.
2. WAP to show the concept of packages.
3. WAP to handle the Exception using try and multiple catch blocks and a finally block.
4. WAP for Implementing Calculator in an Applet, use appropriate Layout Manager.
5. Write Applet code to add two integers in textbox and their sum should appear in third textbox.

27th October 2025 to 24th November 2025

1. Write AWT program in Java to find the sum, Multiplication and average of three numbers entered in three Text fields by clicking the corresponding Labeled Button. The result should be appearing in fourth text field.
2. Write Applet code to show all the activities of Mouse using Mouselistener and MouseMotionlistener.
3. What are various stream classes in Java? Write Java code to read character from a file and write into another file.
4. What are AWT Classes? Write a Java Program to generate Even numbers and Odd Numbers in TextField "T1 and T2 respectively" while pressing Buttons "Even" and "Odd".
5. Write a program to Copy the text from one file to another using byte stream.

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Lesson Plan (2025-26) [Odd Semester]

Name of Teacher	Dr. Sunil Taneja
Class/Section/Group	BCA-II Group-1
Details of Semester/Course Name/Course Code	Semester: 3rd Course Name: Linux and Shell programming Course Code: B23-CAP-302

Practical List

22nd July 2025 to 31st August 2025

- Q1. Write syntax and purpose of any five general purpose commands in Linux.
Q2. Write syntax and purpose of any five file oriented commands in Linux.

1st September 2025 to 30th September 2025

- Q3. Write syntax and purpose of any five directory oriented commands in Linux.
Q4. Write syntax and purpose of any five process oriented commands in Linux.
Q5. Write syntax and purpose of any five communication oriented commands in Linux.

1st October 2025 to 18th October 2025

- Q6. Explain regular expression and filters in Linux like more, less, wc, grep, sort, uniq etc.
Q7. Explain Syntax and purpose of different types of Control Statements in Linux Shell Programming.
Q8. Explain Linux File System Architecture along with various features of Linux Operating System.

27th October 2025 to 24th November 2025

- Q9. Write any seven differences between Linux and Windows Operating System.
Q10. Explain the concept of variables and operators along with various data types supported by Linux. Elaborate on different data types through suitable examples.

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Lesson Plan (2025-26) [Odd Semester]

Name of Teacher	Dr. Sunil Taneja
Class/Section/Group	BCA-II Group-1
Details of Semester/Course Name/Course Code	Semester: 3rd Course Name: Data Base Technologies Course Code: B23-CAP-303

Practical List

22nd July 2025 to 31st August 2025

1. Explain Three Schema Architecture of Data Base Management System.
2. Explain various Data Models with examples.
3. Write any five DDL commands with suitable examples such as CREATE, ALTER TABLE, DROP, TRUNCATE, and ADD COLUMN.
4. Explain DML commands with suitable examples such as UPDATE, DELETE, and INSERT

1st September 2025 to 30th September 2025

1. Explain DCL commands with suitable examples such as GRANT and REVOKE.
2. Explain TCL commands with suitable examples such as COMMIT, SET TRANSACTION, ROLLBACK, and SAVEPOINT.
3. Elaborate the use of SELECT command with examples.
4. Create a table in SQL depicting various constraints.

1st October 2025 to 18th October 2025

1. Explain different types of keys in RDBMS with suitable examples.
2. Write and explain various Relational Algebra operations.
3. What is Normalization? Explain various normal forms with suitable examples.

27th October 2025 to 24th November 2025

1. How do you add a record to a table, delete a record from a table, add a column to a table and delete a column from a table.
2. Explain any five Queries in SQL with suitable example.
3. Make E-R Diagram of Inventory Control System.
4. Make E-R Diagram of Airline Reservation System.

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Lesson Plan (2025-26) [Odd Semester]

Name of Teacher	Dr. Sunil Taneja
Class/Section/Group	BCA-III Group-1
Details of Semester/Course Name/Course Code	Semester: 5th Course Name: Software Engineering Course Code: B23-CAP-501
<u>Practical List</u>	
22nd July 2025 to 31st August 2025	
1)	Development of 0 level DFD
2)	Development of 1 level DFD
1st September 2025 to 30th September 2025	
1)	Development of 2 level DFD
2)	Exploring features of data dictionary
3)	Draw ER diagram for Student Teacher Relationship
1st October 2025 to 18th October 2025	
1)	Draw ER diagram for Library Management
2)	Draw ER Diagram for Hospital Management System.
27th October 2025 to 24th November 2025	
1)	Draw ER diagram for (ANY 5) <ul style="list-style-type: none">- Student Result Management System- Library management system- Inventory control system- Accounting system- Fast food billing system- Bank loan system- Blood bank system- Railway reservation system- Automatic teller machine- Video library management system- Hotel management system- Hostel management system- E-ticking- Share online trading- Hostel management system- Resource management system- Court case management system

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Lesson Plan (2025-26) [Odd Semester]

Name of Teacher	Dr. Sunil Taneja
Class/Section/Group	BCA-III Group-1
Details of Semester/Course Name/Course Code	Semester: 5th Course Name: Back-end Development Course Code: B23-CAP-502
<u>Practical List</u>	
22nd July 2025 to 31st August 2025	
<ul style="list-style-type: none">1) Explore various backend technologies and tools:-<ul style="list-style-type: none">a. Setup development environment (e.g., IDE, Git).b. Create a simple “Hello World” backend application in Node.js.2) Explore basic SQL operations and database interactions.<ul style="list-style-type: none">a. Set up MySQL/PostgreSQL database.b. Perform CRUD operations using SQL queries (Create, Read, Update, Delete).	
1st September 2025 to 30th September 2025	
<ul style="list-style-type: none">3) Explore NoSQL databases.<ul style="list-style-type: none">a. Set up MongoDB/Redis database.b. Implement CRUD operations using NoSQL commands.4) Explain designing and implementing RESTful APIs.<ul style="list-style-type: none">a. Create endpoints for CRUD operations.b. Implement basic authentication and authorization.	
1st October 2025 to 18th October 2025	
<ul style="list-style-type: none">1) Explore backend frameworks.<ul style="list-style-type: none">a. Setup Node.js/Express.js project.b. Implement a simple web application (Express.js or Node.js).2) Explore frontend-backend interaction/integration.<ul style="list-style-type: none">a. Create API endpoints to serve JSON data.b. Develop a frontend (HTML/CSS/JavaScript) to consume backend API.	
27th October 2025 to 24th November 2025	
<ul style="list-style-type: none">1) Explore techniques for validating input data and handling errors.<ul style="list-style-type: none">a. Implement input validation using middleware (Express.js) or Node.js forms.b. Handle errors and exceptions gracefully.2) Implement security measures in backend applications.<ul style="list-style-type: none">a. Implement HTTPS/SSL configuration.b. Prevent common security vulnerabilities (e.g., SQL injection, XSS).	

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Lesson Plan (2025-26) [Odd Semester]

Name of Teacher	Dr. Sunil Taneja
Class/Section/Group	BCA-III Group-1
Details of Semester/Course Name/Course Code	Semester: 5th Course Name: Network Infrastructure and Data Communication Technologies Course Code: B23-CAP-503
<u>Practical List</u>	
22nd July 2025 to 31st August 2025	
<ol style="list-style-type: none">1) Explore different types of Network cables and practically implement the cross-wired cable and straight-through cable using a clamping tool.2) Elaborate on Network Devices in Detail.3) Explore network IP.	
1st September 2025 to 30th September 2025	
<ol style="list-style-type: none">1) Explore connecting the computers to the Local Area Network.2) Performing an Initial Switch Configuration.3) Performing an Initial Router Configuration.	
1st October 2025 to 18th October 2025	
<ol style="list-style-type: none">1) Explore components and specifications of Laptops and Desktop.2) Explore networking components and devices LAN adapter, Hub, Switches, Routers, etc.3) Explore Transmission media and tools: Co-axial cable, UTP cable, Crimping tool, Connectors, etc.	
27th October 2025 to 24th November 2025	
<ol style="list-style-type: none">1) Elaborate on various interior and exterior routing protocols.2) Explore various LAN topologies and their creation using network devices, cables, and Computer.3) Explore configuration of TCP/IP protocols in Window/LINUX.	

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Name of Teacher	Dr. Sunil Taneja
Class/Section/Group	BCA-III Group-1
Details of Semester/Course Name/Course Code	Semester: 5th Course Name: Animation Course Code: B23-VOC-101

Practical List

22nd July 2025 to 31st August 2025

1. Explore basics of 2-D Animation.
2. Explore basics of Photoshop.
3. Explore basics of Paint.

1st September 2025 to 30th September 2025

1. Explore basics of Corel Draw.
2. Explore basics of Macromedia Flash.
3. Explore drawing fundamentals using lines.

1st October 2025 to 18th October 2025

1. Draw sketching of cartoon characters.
2. Explore 2D Logo designing.
3. Explore storyboarding of a 30 seconds film.

27th October 2025 to 24th November 2025

1. Explore portfolio making of an organization.
2. Explore Poster Making.
3. Incorporate Incorporating sound into 2D animation.