Mehr Chand Mahajan DAV College for Women,
Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session: (2026-27)

Name of the Teacher/s: Dr Mandeep K Chawla & Ms Komal Rathi
Department: Department of Computer Science & Applications
Class: BCA-II (3rd Semester) **Section(s):** A & B
Subject: Computer Architecture (BCA-DSC-3(Maj)-301)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Start of the Semester	31.07.26	Definition of computer organization, design and computer architecture; Digital Systems: basic block diagram of computer; ALU design: Register Transfer Language, bus and memory transfer; Microoperations and their hardware implementation: Arithmetic microoperations - binary adder, binary adder-subtractor, binary incrementor, composite arithmetic circuit; Logic microoperations; Shift microoperations – 4-bit combinational shifter; Arithmetic Logic Shift Unit.	PPT, Assignments, discussions, class test
2	01.08.26	31.08.26	**Basic Computer Organization:** stored program organization, Von Neumann architecture; microoperations and macro-operations; instruction code, instruction format, direct and indirect addressing; basic computer registers; Common bus system; Computer Instructions - memory reference, register reference, input output instructions; instruction cycle; interrupt cycle; types of interrupts; Introduction to assembly language, assembly language vs machine language.	PPT, Assignments, Discussions, class test
3	01.09.26	30.09.26	**Memory organization:** memory hierarchy; RAM and ROM chips, memory connection to CPU; Associative memory; Cache memory and mapping procedures - associative, set associative and direct mapping; Virtual memory – paging and segmentation;	PPT, Assignments, Discussions, Brain Storming, Discussions, Related Material, class test
4	01.10.26	31.10.26	**Microprocessor architecture:** 8086/8088 - features, block diagram, memory and register organization, flag register, addressing modes. Input-Output organization: input-output interface - connection of I/O bus to I/O devices, isolated I/O, memory mapped I/O;	PPT, Assignments, Peer Learning, Related Material, class test
5	01.11.26	Till the end of Semester	**Asynchronous data transfer:** source-initiated and destination-initiated strobe control and handshaking, Modes of transfer - programmed I/O data transfer, interrupt-initiated I/O data transfer; Direct Memory Access: DMA controller, DMA transfer.	Assignments, Peer Learning, Related Material, mid-term exam

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
Other Methods adopted by the teacher – Please write the specific teaching method

Mehr Chand Mahajan DAV College for Women,
Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session: (2026-27)

Name of the Teacher/s: Dr Deepti Sharda & Ms Punam
Department: Department of Computer Science & Applications
Class: BCA-II (3rd Semester) **Section(s):** A & B
Subject: Data Structures (BCA-DSC-3(Min)-302)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Start of the Semester	31.07.26	**Basic Concepts:** Introduction to Complexity, Data Structure and Data Structure operations. Applications of Data Structure, Basic data Structures.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
2	01.08.26	31.08.26	**Arrays:** Introduction, Types of Arrays, Memory representation, Applications and operations. **Stacks:** Introduction, memory representation, Applications and operations, Recursion. **Linked List:** Definition, Types of Linked List: Singly, Doubly, Header, Circular linked List	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
3	01.09.26	30.09.26	**Operations -**traversing, searching, inserting, deleting, operations on singly linked list and doubly linked list, memory representation, Applications, polynomial manipulation. **Queue:** Introduction, Types, Memory Representation and Applications.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Class Test, Assignment Submission
4	01.10.26	31.10.26	**Trees**: Definition and Basic concepts, Representation in Contiguous Storage, Binary Tree, Binary Tree Traversal, Searching, Insertion and deletion in Binary trees, Binary Search tree. **Graphs**: Introduction, Memory Representation, Graph Traversal (DFS and BFS)	Lecture Method, Online Resources Reading & Discussion, Programs Discussion, Presentation, Assignment submission
5	01.11.26	Till the end of Semester	**Searching:** Binary and Linear Search**;** **Sorting:** Bubble sort, Insertion sort, Selection sort, Merge Sort, Quick sort. Comparison of various Searching and Sorting algorithms.	Lecture Method, Presentation, Programs Discussion, Referring online resources Sample Questions Discussion

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
Other Methods adopted by the teacher – Please write the specific teaching method

Mehr Chand Mahajan DAV College for Women,
Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session: (2026-27)

Name of the Teacher/s: Dr Deeksha Gupta
Department: Department of Computer Science & Applications
Class: BCA-II (3rd Semester) **Section(s):** A & B
Subject: Computer Oriented Numerical Methods (BCA-DSC-3(Min)-303)

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Start of the Semester	31.07.26	**Numerical and Error Analysis:** Introduction, need of numerical methods, numerical analysis vs numerical methods; Concept of exact and approximate numbers, accuracy and precision, significant digits;	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
2	01.08.26	31.08.26	**Measures of Error:** absolute error, relative error and percentage error; Types of error: blunder, modeling, inherent, numerical (round off, chopping and truncation) errors; Error Propagation in addition, subtraction, multiplication and division operations; Arithmetic of normalized floating point numbers and its error consequences. **Types of Equations:** Linear, quadratic, higher degree polynomial equations, transcendental equations.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
3	01.09.26	30.09.26	**Non-Linear Equations:** Methods to find solution of a non-linear equation : direct vs indirect method, bracketing vs open end iterative method ; Choosing initial approximation: largest possible root, search bracket, search interval; Termination criteria; Intermediate value theorem; Algorithm and methods to find roots of a non-linear equation : Bisection Method, False position method, Newton Raphson Method, Birge-Vieta Method.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Class Test, Assignment Submission
4	01.10.26	31.10.26	**Simultaneous Linear Equations:** Algorithm and methods to find solution of simultaneous linear equations: Direct Methods – Gauss Elimination Method, Concept of Pivoting, Gauss-Jordan Method; Iterative Method – Gauss-Seidal Method. **Interpolation:** Need of interpolation, interpolation vs extrapolation; Finite Differences – forward, backward, divided difference tables; Methods to interpolate for given value using Newton's Forward Difference Method, Newton's Backward Difference Method, Newton's Divided Difference Method and Lagrange's Method. Concept of Inverse Interpolation.	Lecture Method, Online Resources Reading & Discussion, Programs Discussion, Presentation, Assignment submission
5	01.11.26	Till the end of Semester	**Numerical Integration:** Methods and algorithm of Newton-Cotes Integration Formulae: Trapezoidal Rule, Simpson's 1/3rd Rule, Simpson's 3/8th Rule. **Ordinary Differential Equations:** Methods and algorithm to find solution of ODEs using Euler's Method, Runge–Kutta Methods - 2nd order & 4th order, Predictor Corrector Method - Modified Euler's Method.	Lecture Method, Presentation, Programs Discussion, Referring online resources Sample Questions Discussion

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
Other Methods adopted by the teacher – Please write the specific teaching method

Mehr Chand Mahajan DAV College for Women,
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Monthly Teaching Plans (Odd Semester)
Session: (2026-27)

Name of the Teacher/s: Dr Deeksha Gupta & Ms Ashita Jain
Department: Department of Computer Science & Applications
Class: BCA-II (3rd Semester) **Section(s):** A & B
Subject: Introduction to Machine Learning (BCA-DSC-3(Maj)-304)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Start of the Semester	31.07.26	**Introduction:** Concept of Machine Learning, Supervised and Unsupervised learning	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
2	01.08.26	31.08.26	Training vs Test Data, Reinforcement learning, Designing a Learning System, Issues in Machine Learning, Applications of Machine Learning.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
3	01.09.26	30.09.26	**Data Preprocessing**: Understanding of data and its preprocessing, normalizing data, feature scaling and feature selection techniques, Overfitting, Data reduction using Principal Component Analysis.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Class Test, Assignment Submission
4	01.10.26	31.10.26	**Supervised Learning:** Concept of Classification, Decision tree, k-nearest neighbor, Naïve Bayes Classifier, Support Vector Machine, Neural Networks and backpropagation algorithm, Classification evaluation metrics.	Lecture Method, Online Resources Reading & Discussion, Programs Discussion, Presentation, Assignment submission
5	01.11.26	Till the end of Semester	**Unsupervised Learning and Deep Learning:** K-means Clustering, Limits of K-Means, DBSCAN, Concept of Deep Learning, Architecture of Convolutional Neural Networks and Recurrent Neural Networks. e.	Lecture Method, Presentation, Programs Discussion, Referring online resources Sample Questions Discussion

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
Other Methods adopted by the teacher – Please write the specific teaching method

Mehr Chand Mahajan DAV College for Women,
Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session: (2026-27)

Name of the Teacher/s: Dr Mandeep K Chawla & Dr Navdeep Kaur
Department: Department of Computer Science & Applications
Class: BCA-II (3rd Semester) **Section(s):** A & B
Subject: Backend Web Development (CSA-SEC-103/203/303)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Start of the Semester	31.07.26	**Introduction to Internet Technologies:** Internet, Internet protocols: TCP/IP, HTTP, DNS, SMTP., IP addressing, Domain Name System (DNS), Hypertext Markup Language (HTML). **Web Programming:** JavaScript programming fundamentals, Front-end scripting vs server-side scripting.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
2	01.08.26	31.08.26	**Introduction to PHP:** Basic Syntax, defining variables and constants, data types, operators and expressions, decision making statements, looping constructs, mixing decisions and looping with HTML **String Handling:** Creating a string and accessing its content, searching and replacing the content of a string, formatting a string, and string built-in functions.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
3	01.09.26	30.09.26	**Handling HTML Form with PHP:** Creating a form, submitting data to the server at the backend using GET and POST methods, GET vs POST methods, create a student registration form and login form using server-side validation.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Class Test, Assignment Submission
4	01.10.26	31.10.26	**Database Connectivity with MySQL:** Connectivity with database, database creation, creating tables, insertion and retrieval of the data from the database, and data manipulation.	Lecture Method, Online Resources Reading & Discussion, Programs Discussion, Presentation, Assignment submission
5	01.11.26	Till the end of Semester	Implementation of Database based sample application	Lecture Method, Presentation, Programs Discussion, Referring online resources Sample Questions Discussion

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
Other Methods adopted by the teacher – Please write the specific teaching method

Mehr Chand Mahajan DAV College for Women,
Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session: (2026-27)

Name of the Teacher/s: Ms Manisha Tanwar
Department: Department of Computer Science & Applications
Class: BCA-II (3rd Semester) **Section(s):** A & B
Subject: Social Media Marketing (CSA-MDC-107/207/307)

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Start of the Semester	31.07.26	**Understanding Social Media**: Evolution of Social Media, Social Media Ecosystem, Role of Social Media in Digital Marketing, Features and Characteristics of Social Media Platforms, Consumer Behaviour in Social Media, Social Media Marketing vs Traditional Marketing, Types of Social Media Platforms: Social Networking, Video Sharing, Blogging, Microblogging, Forums and Communities;	Lecture Method, Reading & Discussion, Presentation, Online Resources
2	01.08.26	31.08.26	Overview of Major Platforms: Facebook, Instagram, LinkedIn, X (Twitter), YouTube, Pinterest, Snapchat **Planning and Creating Social Media Strategies:** Developing Social Media Marketing Strategy, Goal Setting (SMART Goals) Identifying Target Audience. Customer Persona Development, Brand Positioning on Social Media, Content Marketing Fundamentals, Content Planning and Content Calendar,	Lecture Method, Reading & Discussion, Presentation, Online Resources
3	01.09.26	30.09.26	Types of Content: Images, Videos, Reels, Stories, Infographics, Blogs, Live Streaming, Copywriting for Social Media. **Responsible and Ethical Use of Social Media:** Meaning and Importance of Ethics in Social Media Marketing, Consumer Privacy and Data Protection, Truthful Advertising and Consumer Protection	Lecture Method, Reading & Discussion, Presentation, Class Test, Assignment Submission
4	01.10.26	31.10.26	Intellectual Property Rights and Copyright Issues, Ethical Practices and Influencer Marketing, Crisis Communication and Responsible Social Media Practices. **Future Trends and Practical Applications:** Artificial Intelligence (AI) and Automation in Social Media, Influencer Marketing and the Creator Economy, Short-form Video Content and Live Streaming	Lecture Method, Online Resources Reading & Discussion, Presentation, Assignment submission
5	01.11.26	Till the end of Semester	Social Commerce and In-app Shopping, User-Generated Content (UGC) and Brand Communities, Social Listening and Online Reputation Management, Applications of Social Media in: Business and Marketing, Education, Healthcare, Tourism and Hospitality, Government and Public Services	Lecture Method, Presentation, Referring online resources Sample Questions Discussion

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
Other Methods adopted by the teacher – Please write the specific teaching method

Mehr Chand Mahajan DAV College for Women,
Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session: (2026-27)

Name of the Teacher/s: Dr Deeksha Gupta
Department: Department of Computer Science & Applications
Class: BCA-II (4th Semester) **Section(s):** A & B
Subject: Operating System Concepts (BCA-DSC-4(Maj)-401A)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Start of the Semester	31.01.27	**Operating Systems (OS):** Introduction, its needs and services, Functions of an operating system, **Types of OS:** Single-User, Multi-user, batch system, Multiprogramming, Multiprocessing and Real time Operating Systems, Parallel systems; Distributed systems- peer-to-peer system, clientserver system. Operating system structure- Monolithic, Layered, Microkernel, Modular, Hybrid. Concept and purpose of virtualization.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
2	01.02.27	28.02.27	**Process Management:** Introduction to Process, Program vs. Process, Process in Memory, PCB, Process States, CPU Scheduling: context-switch, dispatching, Types of schedulers- Long-term, medium-term, short-term Schedulers, Pre-emptive and Non-preemptive Scheduling, Scheduling Criteria and Algorithms: FCFS, SJF, Priority, Round Robin, Multilevel Queue Scheduling, Multilevel Feedback Queue Scheduling. **Deadlocks:** Necessary and sufficient conditions for Deadlocks, Introduction to methods for handling deadlocks, deadlock prevention, Resource Allocation Graph, deadlock avoidance, Wait-for Graph, deadlock detection and recovery.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
3	01.03.27	31.03.27	**Memory Management:** Address binding, Logical vs Physical address space, Memory Management Unit (MMU), Swapping, Fragmentation: External and Internal, Compaction, Introduction to Paging and Segmentation, Virtual Memory-Demand paging, Pure Demand Paging, Introduction to Page Replacement algorithms: FIFO, Optimal Page replacement and LRU, Introduction to Thrashing.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
4	01.04.27	Till the end of Semester	I/O Systems and Device Management- I/O hardware and device drivers, Polling, Interrupt handling, buffering, spooling, and caching; Disk scheduling algorithms: FCFS, SSTF, SCAN, CSCAN, LOOK, C-LOOK; RAID levels.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
Other Methods adopted by the teacher – Please write the specific teaching method

Mehr Chand Mahajan DAV College for Women,
Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session: (2026-27)

Name of the Teacher/s: Dr Deepti Sharda & Ms Punam
Department: Department of Computer Science & Applications
Class: BCA-II (4th Semester) **Section(s):** A & B
Subject: Database Management System (BCA-DSC-4(Maj)-402)

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Start of the Semester	31.01.27	**Basic Concepts:** A Historical perspective, File Systems vs. DBMS, Characteristics of the Data Base Approach, Abstraction and Data Integration, Database users, Advantages and Disadvantages of DBMS, Database Systems Concepts and Architecture: Schemas and Instances, DBMS architecture and Data Independence, Database languages & Interfaces, DBMS functions and component modules, Entity Relationship Model: Entity Types, Entity Sets, Attributes & Keys, Relationships, Relationship Types, Roles and Structural Constraints, Design issues, weak entity types, E-R Diagrams. Design of an E-R Database Schema	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
2	01.02.27	28.02.27	**Relational Data Model:** Relational model concepts, Integrity constraints over Relations, Relational Algebra - Basic Operations. Conventional Data Model: An overview of Network and Hierarchical Data Models. Relational Database Design: Functional Dependencies, Decomposition, Desirable properties of decomposition, Normal forms based on primary keys (1NF, 2NF, 3NF and BCNF) RDBMS: Terminology, The 12 Rules (Codd's Rule) for an RDBMS.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
3	01.03.27	31.03.27	**Understanding SQL-1:** Data Types, Creating database and tables, Creating a Table with data from another table, Inserting Values into a Table, Updating Column(s) of a Table, Deleting Row(s) from a Table, Dropping a Column, Querying database tables, Conditional retrieval of rows, Working with Null Values, Matching a pattern from a table, ordering the result of Query; Inbuilt Functions: Aggregate functions - Grouping the Result of a Query, Character/String functions, date functions; creation and deletion of Views, Managing privileges with Grant, Revoke Command, COMMIT and ROLLBACK.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
4	01.04.27	Till the end of Semester	**Understanding SQL-II:** Querying Multiple Tables using various Joins, SET Operators: Union, Intersect, Minus; Introduction to Nested Queries Procedural SQL: Creating, Executing and deleting procedures and functions, Variables and Constants, Scope and Visibility of a Variable, Assignments and Expressions, Operator Precedence, Conditional and Iterative Control, Cursor Management: Implicit/explicit Cursor Attributes; Exception Handling: Predefined Exceptions, User Defined Exceptions; Database Trigger: types of triggers, dropping triggers.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
Other Methods adopted by the teacher – Please write the specific teaching method

Mehr Chand Mahajan DAV College for Women,
Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session: (2026-27)

Name of the Teacher/s: Dr Mandeep K Chawla & Ms Shruti Saroha
Department: Department of Computer Science & Applications
Class: BCA-II (4th Semester) **Section(s):** A & B
Subject: Information System Design and Implementation (BCA-DSC-4(Maj)-403)

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Start of the Semester	31.01.27	**Systems Concepts and Information Systems Environment:** Definition and characteristics of a system. Elements of a system Environment: Boundaries and interface. Types of systems: Physical or Abstract Systems, Open and Closed System, Man-made information systems, Types of System Models. **System Development Life Cycle:** Introduction to various phases-Recognition of Need, Feasibility Study, Analysis, Design, Implementation, Post–Implementation and Maintenance. **The Role of System Analyst:** Skills of a System Analyst, Duties of the System Analyst.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
2	01.02.27	28.02.27	**System Planning and the Initial Investigation:** Bases for planning in system analysis, Initial investigation, determining the user's information requirements, Problem definition and Project Initiation, Background Analysis, Fact Finding, Fact Analysis, Determination of Feasibility. **Information Gathering:** Introduction, Information Gathering tools: Review of Literature, Procedures and forms. On-site observation. Interviews and questionnaires. **Tools of Structured Analysis:** SRS features and structure, Various tools of structured analysis: Data flow diagram (DFD), Data Dictionary, Decision tree and structured English, Decision table, Pros and cons of each tool, ER-Diagrams	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
3	01.03.27	31.03.27	**Feasibility Study:** System Performance-statement of Constraints, Identification of Specific System Objectives, description of Outputs. Feasibility Study – Feasibility considerations, Steps in feasibility analysis. Feasibility Report. **System Design:** The Process of Design – Logical and Physical Design, Design Methodologies: Structured Design, Functional Decomposition. System Testing: Testing, System testing, test phases, types of System Testing, Whitebox and Blackbox testing techniques, Object-Oriented testing. **Quality Assurance:** Quality assurance and its goals in its system life cycle, Levels of quality assurance, Trends in testing.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content

4	01.04.27	Till the end of Semester	**Implementation and Software Maintenance:** Introduction, Conversion- Activity network for Conversion, File Conversion, User Training: Elements of user Training Post implementation review. Software Maintenance - Primary activities of a Maintenance Procedure, Reducing Maintenance Costs. Types of Software Maintenance. Hardware and Software Selection: Types of Software, Procedure for Hardware/Software selection: Major phases in selection, Evaluation and Validation, Vendor Selection, Post–Installation Review. Software selection- Criteria for Software Selection, the evaluation process.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
Other Methods adopted by the teacher – Please write the specific teaching method

Mehr Chand Mahajan DAV College for Women,
Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session: (2026-27)

Name of the Teacher/s: Dr Deeksha Gupta
Department: Department of Computer Science & Applications
Class: BCA-II (4th Semester) **Section(s):** A & B
Subject: Cyber Security (BCA-DSC-4(Maj)-404)

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Start of the Semester	31.01.27	**Introduction to Cyber security:** Defining Cyberspace, Overview of Computer and Web-technology, Architecture of cyberspace, Communication and web technology, Internet, World wide web, Advent of internet, Internet infrastructure for data transfer and governance, Internet society, Regulation of cyberspace, Concept of cyber security, Issues and challenges of cyber security. Defining Cyber Security, Cyber security terminologies- Cyberspace, attack, attack vector, attack surface, threat, risk, vulnerability, exploit, exploitation, hacker, Controls, Authentication, Access Control and Cryptography.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
2	01.02.27	28.02.27	**Web attack:** Browser Attacks, Web Attacks Targeting Users, Obtaining User or Website Data, Email Attacks. **Network Vulnerabilities**: Overview of vulnerability scanning, Open, Port / Service Identification, Banner /Version Check, Traffic Probe, Vulnerability Probe, Vulnerability Examples, Open VAS, Meta sploit. Networks Vulnerability Scanning (Netcat, Socat), Network Sniffers and Injection tools.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
3	01.03.27	31.03.27	**Cyber-crime and Cyber law:** Classification of cyber-crimes, Common cyber-crimes- cyber-crime targeting computers and mobiles, cyber-crime against women and children, financial frauds, social engineering attacks, malware and ransom-ware attacks, zero day and zero click attacks, Cybercriminals modus-operandi, Reporting of cybercrimes, Remedial and mitigation measures, Legal perspective of cybercrime, IT Act 2000 and its amendments, Cybercrime and offences, Organizations dealing with Cybercrime and Cyber security in India.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
4	01.04.27	Till the end of Semester	**Data Privacy and Data Security:** Defining data, meta-data, big data, non-personal data. Data protection, Data privacy and data security, Personal Data Protection Bill and its compliance, Data protection principles, Big data security issues and challenges, Data protection regulations of other countries- General Data Protection Regulations (GDPR), 2016 Personal Information Protection and Electronic Documents Act (PIPEDA), Social media- data privacy and security issues. Firewalls and Packet Filters, password Cracking, Key loggers and Spyware, Virus and Warms, Trojan and backdoors, Steganography, DOS and DDOS attack, SQL injection, Buffer Overflow, Attack on wireless Networks.	Lecture Method, Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
Other Methods adopted by the teacher – Please write the specific teaching method

Mehr Chand Mahajan DAV College for Women,
Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session: (2026-27)

Name of the Teacher/s: Dr Mandeep K Chawla & Dr Navdeep Kaur
Department: Department of Computer Science & Applications
Class: BCA-II (4th Semester) **Section(s):** A & B
Subject: Python Programming (BCA-DSC-4(Min)-405)

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Start of the Semester	31.01.27	Introduction to Python Programming, Data Types, Operators, Expressions, Variables, Scope of a variable, Type Conversion in Python, if statement: simple if, if-else, if-elif-else chain, if statement with lists; Loops: Selection, Indentation, Repetition, Break and Continue statement, Nested Loops, while loop with lists and dictionaries, Strings: Introduction to String, String Operations, Transversal of string, Methods and Inbuilt Functions.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
2	01.02.27	28.02.27	**Lists:** Definition, Operations, Traversal, Methods and Inbuilt Functions, Nested Lists, Copying Lists, List as an argument, Mutable and Immutable Data types. **Tuples:** Introduction, Operations, Traversal, Methods and Inbuilt Functions, Nested Tuples **Dictionaries:** Introduction, Traversal, Methods and Inbuilt Functions, Manipulating Dictionary.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
3	01.03.27	31.03.27	**Function:** definition, advantages, User defined functions: defining a function, passing arguments, return values, passing a list, Python standard Libraries. **Classes:** creating and using a class, working with classes and instances, importing classes, Python standard library.	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Class Test, Assignment Submission
4	01.04.27	Till the end of Semester	**Exception Handling:** exceptions and errors, try-except block, the else block, handling the ZeroDivisionError and FileNotFoundError exception. **File Handling:** Introduction, Types of Files, Opening and Closing File, Writing to a file, Reading from a file, Setting offset in a file, Creating and Traversing a file.	Lecture Method, Online Resources Reading & Discussion, Programs Discussion, Presentation, Assignment submission

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
Other Methods adopted by the teacher – Please write the specific teaching method