Govt. Shivalik College Naya Nangal

Teaching Plan (2025-26) **Class: BCA-II (sem 3)**

Subject: Computer Applications **Paper: CSA**

Name:POOJA DADWAL

Sr. No.	Dates	Topics
1.	**04-09 August**	Computer System Organisation: CPU Organisation.
2.	**11-14 August**	Instruction Execution (instruction cycle, types of instructions), RISC v/s CISC.
3.	**18- 23 August**	Design Principles for Modern Computers, Instruction level parallelism.
4.	**25-31 August**	Processor level parallelism.
5.	**01 - 07 September**	Primary memory: Memory addresses, Error-correcting codes, Cache memory
6.	**08-13 September**	Instruction Set Architecture: Instruction formats, Expanding opcodes, types of addressing modes, data transfer and manipulation instructions, Program control.
7.	**15-21 September**	(status-bit conditions, conditional branch instructions, program interrupt, types of interrupt)
8.	**22-27 September**	Register Transfer Language: Register Transfer, Bus and memory transfer, Arithmetic microoperations word, control memory (concepts only)
9.	**29 Sep – 04 October**	Asynchronous Data transfer (strobe control, handshaking), modes of transfer (programmed I/O, interrupt-initiated I/O, software considerations), Direct memory access.
10.	**06- 11 October**	Logic micro-operations, Shift micro-operations, Arithmetic logic sift unit Micro-programmed control, control word
11.	**13 -18 October**	Input-output Organisation- I/O interfaces (I/O bus and interface modules
12.	**20-25 October**	, I/O versus memory bus, isolated versus memory-mapped I/O).
13.	**26-31 October**	REVISION : Asynchronous Data transfer (strobe control, handshaking).
14.	**01-8 November**	MST Exams
15.	**10-18 november**	Revision Test

Govt. Shivalik College Naya Nangal

Teaching Plan (2025-26) **Class: BCA-III (sem -5)**

Subject: Computer Applications **Paper: SAD**

Name: Pooja Dadwal

Sr. No.	Dates	Topics
1.	**04-09 August**	Systems concepts: Definition and characteristics of a system, Elements of a system,
2.	**11-14 August**	Types of systems. The system development life cycle: Introduction to various phases.
3.	**18- 23 August**	The role of the Systems Analyst: Qualifications of a systems analyst, various roles of the systems analyst.
4.	**25-31 August**	Systems analysis: Initial investigation, needs identification, determining the user's information requirements.
5.	**01 - 07 September**	Information-gathering tools
6.	**08-13 September**	Structured analysis tools: Data flow diagram, Data dictionary, Decision treeSoftware maintenance: maintenance or enhancement, Primary activities of a m
7.	**15-21 September**	Structured English, Decision tables.
8.	**22-27 September**	Feasibility study: Feasibility considerations, Steps in Feasibility analysis.
9.	**29 Sep – 04 October**	Database design. Implementation and software maintenance: Conversion,
10.	**06- 11 October**	Input/output and forms design, Post-implementation review.
11.	**13 -18 October**	Systems Design: The process and stages of systems design.
12.	**20-25 October**	Hardware and software selection: Procedure and major phases in selection.
13.	**26-31 October**	MST Exams

Govt. Shivalik College Naya Nangal

Teaching Plan (2025-26) **Class: PGDCA-I (sem 2)**

Subject: Compute Applications **Paper: Python Programming**

Name: Pooja Dadwal

Sr. No.	Dates	Topics
1.	**01-06 February**	Python Modules: Modules, Standard Modules
2.	**08-13February**	Import Statement, Dir functions
3.	**15-20February**	Python file handling
4.	**22-27 February**	Sending Output to STDOUT using print method
5.	**01– 06 March**	Method reading input With INPUT method, creating file objects with OPEN method
6.	**08 -13March**	Controlling file access modes,
7.	**15-20 March**	working with file objects attributes
8.	**22-27 March**	Closing file objects with the CLOSE method
9.	**29 March– 03 April**	Reading Ang writing to file objects with READ And Write
10.	**05-10 April**	Using file Processing functions from the OS Module
11.	**12 -17 April**	Class test/ assignments
12.	**19-24 April**	MST
13.	**26 April-04MAY**	

Govt. Shivalik College Naya Nangal

Teaching Plan (2025-26) **Class: BCA-II (sem 4)**

Subject: Computer Applications **Paper: RDBMS**

Name: Pooja Dadwal

Sr. No.	Dates	Topics
1.		Introduction to RDBMS Product and their Features, Difference between DBMS and RDBMS
2.	**01-06February**	Relationship among application programs, RDBMS, Basic File Operations: Opening Files, Closing Files, Reading and Writing, Seeking
3.	**08-13February**	File Organization: Field and Record structure in file, Record Types, Types of file organization, Sequential, Indexed, and Hashed.
4.	**15-20February**	Transaction Management: Transaction Concept, Properties, Transaction States, Concurrent execution.
5.	**22-27 February**	Serializability, Conflict Serializability, View Serializability, Recoverability, Recoverable Schedule, Cascadless Schedule Concurrency Control: Lock Based Protocol,
6.	**01– 06 March**	Locks, Granting of Locks, Two Phase Locking protocol Timestamp Based Protocol, Timestamp, Timestamp ordering protocol, Thomas's Write rule
7.	**08 -13March**	Validation Based Protocol, Deadlock Handling, Deadlock Prevention, Deadlock Detection, Deadlock Recovery
8.	**15-20 March**	Recovery System: Failure Classification, Transaction Failure, System Crash, Disk Failure, Storage Structures, Storage Types, Data Access, Recovery & Atomicity, Log based Recovery.
9.	**22-27 March**	Deferred Database Modification, Immediate Database Modification, Checkpoints, Recovery with Concurrent Transaction, Transaction Rollback, Restart Recovery, Remote Backup System Relational Query Language: DDL, DML, DCL. Introduction to Oracle: Oracle as client/server architecture, getting started, creating, modifying
10.	**29 March– 03 April**	dropping databases. Inserting, updating, deleting data from databases, SELECT statement, Data constraints (Null values, Default values, primary, unique and foreign key concepts) Computing expressions, renaming columns, logical operators, range searching, pattern matching,
11.	**05-10 April**	Oracle functions, grouping data from tables in SQL, manipulating dates.
12.	**12 -17 April**	Working with SQL: triggers, use of data base triggers, database triggers Vs. SQL*forms, types of triggers, how to apply database triggers, BEFORE vs. AFTER triggers, combinations, syntax for creating and dropping triggers
13.	**19-24 April**	MST Exams
14.	**26 April-04MAY**	

Govt. Shivalik College Naya Nangal

Teaching Plan (2025-26) **Class: BCA III (sem 6)**

Subject: Computer Science **Paper: Software Engg.**

Name: PoojaDadwal

Sr. No.	Dates	Topics
1.	**01-06February**	Introduction – The Problem Domain, Software Engg. Challenges, Software Engg. Approach
2.	**08-13February**	Software development life cycle, its phases, Software development process models
3.	**15-20February**	Waterfall, Prototyping, Iterative; Software Process- Characteristics of software process, ,
4.	**22-27 February**	Project management process, Software configuration management process.
5.	**01– 06 March**	Project Planning – activities, COCOMO model. Class test-1
6.	**08 -13March**	Software Metrics – Definition, Importance, Categories of metrics. Software Quality – Attributes,Cyclomatic complexity metric
7.	**15-20 March**	Software Requirements Analysis – Need for SRS, Data flow diagrams, Data Dictionary, entity relationship diagram, Characteristics and components of SRS, validation, metrics SECTION-B Software Design – Design principles, Module-level concepts, Structure Chart and Structured
8.	**22-27 March**	Design methodology,, verification, metrics : network metrics, information flow metrics. Coding – Programming Principles and Guidelines, Verification- code inspections, static analysis.Software Testing – testing fundamentals, Black Box Testing : Equivalence class
9.	**29 March– 03 April**	Tes partitioning, Boundary value analysis, cause-effect graphing; White Box Testing : Control flow and Data flow based testing, mutation testing; levels of testing, test plan, test case ting – testing fundamentals, Black Box Testing : Equivalence class
10.	**05-10 April**	specification, test case execution and analysis, Software maintenance – Categories of maintenance.Software Reliability – Definition, uses, of reliability studies.
11.	**12 -17 April**	Class test 2
12.	**19-24 April**	Revision
13.	**26 April-**	MST Exams

Govt. Shivalik College Naya Nangal

Teaching Plan (2025-26) **Class: BCA-II (sem 2)**

Subject: Computer Applications **Paper: Computer Architecture**

Name:POOJA DADWAL

Sr. No.	Dates	Topics
1.	**04-09 August**	Computer System Organisation: CPU Organisation.
2.	**11-14 August**	Instruction Execution (instruction cycle, types of instructions), RISC v/s CISC.
3.	**18- 23 August**	Design Principles for Modern Computers, Instruction level parallelism.
4.	**25-31 August**	Processor level parallelism.
5.	**01 - 07 September**	Primary memory: Memory addresses, Error-correcting codes, Cache memory
6.	**08-13 September**	Instruction Set Architecture: Instruction formats, Expanding opcodes, types of addressing modes, data transfer and manipulation instructions, Program control.
7.	**15-21 September**	(status-bit conditions, conditional branch instructions, program interrupt, types of interrupt)
8.	**22-27 September**	Register Transfer Language: Register Transfer, Bus and memory transfer, Arithmetic microoperations word, control memory (concepts only)
9.	**29 Sep – 04 October**	Asynchronous Data transfer (strobe control, handshaking), modes of transfer (programmed I/O, interrupt-initiated I/O, software considerations), Direct memory access.
10.	**06- 11 October**	Logic micro-operations, Shift micro-operations, Arithmetic logic sift unit Micro-programmed control, control word
11.	**13 -18 October**	Input-output Organisation- I/O interfaces (I/O bus and interface modules
12.	**20-25 October**	, I/O versus memory bus, isolated versus memory-mapped I/O).
13.	**26-31 October**	REVISION : Asynchronous Data transfer (strobe control, handshaking).
14.	**01-8 November**	MST Exams
15.	**10-18 november**	Revision Test