GOVERNMENT SHIVALIK COLLEGE, NAYA NANGAL

TIME TABLE

Session-2020-21

Department of Computer Science

Sr. No.	CLASS	PERIOD NO.		TIME	PLACE	PRACTICAL (2:15-3:00PM)
1	B.A/B.Sc 1	4	(1-6)	10:30-11:15 AM	CR-15	(1-2) days RUSA LAB
2	B.A/B.Sc 2	2	(1-6)	12:45-1:30 PM	CR-15	(3-4) days RUSA LAB
3	B.A/B.Sc 3	3	(1-6)	9:00-9:45 AM	CR-1	(5-6) days RUSA LAB
4	B.com (Sem-1)	6	(1-6)	1:30-2:15 PM	LT-15	
5	BCA (sem-6)	7	(3-6)	1:30-2:15 PM	LT-1	

Pooja Sharma

Govt. Shivalik College Naya Nangal

Teaching Plan(2020-21)   Class: B.A & B.sc (Sem-I)

Subject: Computer Science   **Paper: Fundamentals Of IT**

Name :Pooja Sharma

Sr. No	Dates	Topics
1.	1-5 September	**Computer Fundamentals:** Block diagram of a computer, characteristics of computers and generations of computers. Categories of Computers - Supercomputer, mainframe computer, network server, Workstation, Desktop computers, notebook computer, Tablet PC, handheld PC, smart phone.
2.	7-12 September	**Input Devices:** Keyboard, Mouse, Joy tick, Track Ball, Touch Screen, Light Pen, Digitizer, Scanners, Speech Recognition Devices, Optical Recognition devices – OMR, OBR, OCR
3.	14-19 September	**Output Devices:** Monitors, Impact Printers - Dot matrix, Character and Line printer, Non Impact Printers – DeskJet and Laser printers, Plotter.
4	21-26 September	**Memories:** Memory Hierarchy, Primary Memory – RAM, ROM, Cache memory. Secondary Storage Devices - Hard Disk, Compact Disk, DVD, Flash memory.
5	28-03 October	**Software:** Types of Software- System Software, Application Software, Firmware. Type of System Software: Operating Systems, Language Translators, Utility Programs, Communications Software.
6	5-10 October	**Commonly Used Application Software**: Word Processor, Spreadsheet, Database, Education, Entertainment Software. **Computer Languages:** Machine language, assembly language, high level language, 4GL.
7	12-17 October	**Commonly Used Application Software**: Word Processor, Spreadsheet, Database, Education, Entertainment Software. **Computer Languages:** Machine language, assembly language, high level language, 4GL.
8	19-24 October	**Number System:** Non-positional and positional number systems, Base conversion, Concept of Bit and Byte, binary, decimal, hexadecimal, and octal systems, conversion from one system to the other. Binary Arithmetic: Addition, subtraction and multiplication, 1's complement, 2's complement, subtraction using 1's complement and 2's complement.
9	26-31 October	**Computer Codes:** weighted and non-weighted code, BCD, EBCDIC, ASCII, Unicode. **Computer Network:** Network types, network topologies.

10	2-07 November	**Internet Related Concepts:** Internet, World Wide Web, Hypertext, Uniform Resource Locator, Web Browsers, IP Address, Domain Name, Internet Services Providers, Internet Security, Web Search Engine, Net Surfing, web portal, Wiki, Blog.
11.	09-14 November	**Advanced Trends in IT :** Mobile Internet, GPS, 3G, 4G, Wi-Fi, Bluetooth, Cloud Technology, Virtual LAN Technology, Firewall, E-Commerce, M-Commerce, Nanotechnology, Virtual Reality, BPO and KPO, Online shopping, Social Media - YouTube, FaceBook, Linkedin, Twitter, Google+.
12.	16-21 November	**Applications of IT:** IT in Business and Industry, IT in Education & training, IT in Science and Technology, IT and Entertainment, Current Trends in IT Application - AI, Virtual Reports, voice recognition, Robots, Multimedia Technology. **Revision.**
13.	23-03 December	MST Exams..

Govt. Shivalik College Naya Nangal

Teaching Plan(2020-21)

Class: B.A./B.Sc. Part-I (COMPUTER SCIENCE) (Semester II)

Paper: MS-OFFICE AUTOMATION TOOLS

Name : Pooja Sharma

Sr. No	Dates	Topics
1.	1-6 February	**MS-OFFICE:** Basic layout, components, Office Characteristics, Common Office Controls and shortcuts for Home, Insert, Page Layout, Mailing, Review and View
2.	8-13 February	**MS Word 2010:** Introduction to Word Processing, Toolbars, Ruler, Menus, Keyboard Shortcut. Previewing documents, Printing documents, Formatting documents.
3.	15-20 February	Checking the grammar and spelling, Formatting via find and replace, Using the Thesaurus, using Auto Correct, word count, Hyphenating, Mail merge, mailing Labels Wizards and Templates .
4	22-27 February	Handling Graphics, tables as Converting a word document into various formats. **MS PowerPoint 2010:** Introduction, Elements of Power Point Package, Starting and exploring Power Point menus (Insert, Format, Tools, Slide Show, Window, Help options and all of their features, Options and sub options etc.)
5	01-06 March	Creating, inserting, deleting and formatting slides, Formatting and enhancing text, Slides with graphs, Giving Animation to slides, Transfer of files between Power Point and other word processors and software packages.
6	08-13 March	**MS-EXCEL 2010:** Creating worksheet, entering data into worksheet, Entering data into worksheet, Entering, data, dates, alphanumeric, values, saving & quitting worksheet .
7	15-20 March	Opening and moving and existing worksheet, Toolbars and Menus, keyboard shortcut.
8	22-27 March	Working with single and multiple workbooks, working with formulation & cell referencing, formatting of worksheet.
9	29-03 April	**MS-ACCESS 2010:** Introduction to MS-ACCESS-2010 working with databases and tables, queries in Access.
10	05-10 April	Introduction to forms
11.	12-17 April	sorting and filtering, controls
12.	19-24 April	Creating reports, Using Macro
13.	26-04 May	MST Exams...

Govt. Shivalik College Naya Nangal

Teaching Plan(2020-21)

Class: B.A./B.Sc. (Computer Science) Part II (Semester IV)

Paper: DATABASE MANAGEMENT SYSTEM

Name : Pooja Sharma

Sr. No	Dates	Topics
1.	1-6 February	**Traditional file procession system:** Characteristics, limitation. Database: Definition, composition.
2.	8-13 February	**Database Management System :** Definition, Characteristic advantages over traditional file processing system, Implication Database approach, Uses of database.
3.	15-20 February	DBA and its responsibilities Database schema, instance.
4	22-27 February	DBMS architecture, data independence, mapping between different levels.
5	01-06 March	**Database language :** DDL, DML, DCL. Database utilities, Data Models, Keys : Super, candidate, primary, unique, foreign.
6	08-13 March	**Entity relationship model :** concepts, mapping cardinalities, entity relationship diagram, weak sets, strong entity sets, aggregation, generalization, converting ER diagram to tables.
7	15-20 March	**Relational Algebra :** Basic operations, additional operations.
8	22-27 March	**Database design:** Functional dependency, decomposition, problem arising out of bad database design, normalization, multi-valued dependency.
9	29-03 April	Database design process, database protection, database integrity, Database concurrency: Problems arising out of concurrency, methods of handling concurrency. Data recovery, database security: Authentication, authorization, methods of implementing security.
10	05-10 April	**MS-Access:** Introduction to MS-Access, working with database and tables, queries in Access.
11.	12-17 April	Applying integrity constraints, Introduction to forms, sorting and filtering controls.
12.	19-24 April	Macro: Creating reports using Macros.
13.	26-04 May	MST Exams...

Govt. Shivalik College Naya Nangal

Teaching Plan(2020-21)

Class: B.A/B.Sc. (COMPUTER SCIENCE) Part III Semester V

Paper: OBJECT ORIENTED PROGRAMMING USING C++

Name : Pooja Sharma

Sr. No	Dates	Topics
1.	1-6 February	**Evolution of OOP :** Procedure Oriented Programming, OOP Paradigm, Advantages and disadvantages of OOP over Functional Programming Approach.
2.	8-13 February	**Characteristics of Object Oriented Language :** Classes, Objects, Inheritance, Reusability, User defined Data Types, Polymorphism and Exception Handling.
3.	15-20 February	**Introduction to C++ :** Structure of C++ Program, Identifier and keywords, Constants, Data Types, C++ Operators, Type Compatibility, Variable Declaration, Reference Variable, Statements, Expressions, Manipulators. Input and Output Statements.
4	22-27 February	**Control Statements:** Conditional Expression, Loop Statements.
5	01-06 March	**Storage Class Specifiers :** Automatic, Static, Register, Extern. Array, Pointer Arithmetic, Structures, Pointers and Structures, Unions, Bit Field Typed Enumerations.
6	08-13 March	**Function in C++ :** Function Prototyping, Defining a function, Types of functions. **Methods of Parameter passing :** by value, by address, by reference, Recursion.
7	15-20 March	**Function Overloading :** Virtual functions, pure virtual functions, operator overloading.
8	22-27 March	**Classes :** Data members and member functions, objects, arrays of class objects, Objects as function arguments, nested classes, inline member functions, static data members and static member functions, friend functions, dynamic memory allocation.
9	29-03 April	**Constructors and Destructors:** Default parameterized and copy constructors, multiple constructors in classes dynamic constructors. Rules for constructors and destructors, Const. Objects
10	05-10 April	**Inheritance:** single inheritance, inheriting private members, types of derivation, multiple inheritance, multi-level inheritance, hierarchical inheritance, hybrid inheritance, container classes and member access control. Abstract class.
11.	12-17 April	Polymorphism : Methods of achieving polymorphic behaviour.
12.	19-24 April	**Pointers:** Pointers and classes, pointer to object, this pointer.
13.	26-04 May	MST Exams...

Govt. Shivalik College Naya Nangal

Teaching Plan(2020-21)

Class: B.COM. PART-I (Ist Semester)

Paper: COMPUTER APPLICATIONS IN BUSINESS

Name : Pooja Sharma

Sr. No	Dates	Topics
1.	1-5 September	Computer: Introduction, Functions and Classification of Computer, Overview of Software and Hardware, Input and Output devices, Computer Memory: RAM, ROM.
2.	7-12 September	Number System and its Inter Conversion Introduction to Operating System.
3.	14-19 September	DOS and WINDOWS, working with files and folder, Understanding the control panel, Opening and exiting Windows applications, Copying and moving information between windows and learning other basic functions of window (latest version).
4	21-26 September	Introduction to Word Processing, Word Processing concepts, Use of Templates, Working with word document: Editing text, Find the replace text, Formatting, spell check.
5	28-03 October	Auto correct, Auto text; Bullets and numbering, Tabs, Paragraph formatting, Indent, Page formatting, Header and footer.
6	05-10 October	Tables: Inserting, Filling and formatting a table; Inserting Pictures and Video; Mail Merge: Including linking with Database; Printing documents.
7	12-17 October	Preparing Presentations: Basics of presentations, Slides, Fonts, Drawing, Editing; Inserting: Tables, Images, texts, Symbols Media; Design; Transition; Animation; and Slide show.
8	19-24 October	Creating Business Presentations using above facilities. Spread sheet and its Business Applications: Spread sheet concepts, Managing worksheets; Formatting, Entering data, Editing, and Printing a worksheet; Handling operations in Formula, Project involving multiple spread sheets, Organizing Charts and Graphs.
9	26-31 October	Generally used Spread sheet functions: Mathematical, Statistical, Financial, Logical, Date and Time Look up and reference, Database, and Text functions. Graphical representation of data: Frequency distribution and its statistical parameters; Mean, Median, Standard Deviation. Correlation and Regression.
10	02-07 November	Frequency distribution and its statistical parameters; Mean, Median, Standard Deviation. Correlation and Regression.
11	09-14 November	Database Designs for Accounting and Business Applications: Reality-Expressing the Application; Creating initial design in Entity Relationship Model
12	16-21 November	Transforming E.R. Model to Relational Data Model Concepts Applying DBMS in Areas of Accounting & Inventory.
13	23-03 December	MST Exams...

Govt. Shivalik College Naya Nangal

Teaching Plan(2020-21)   Class: B.A & B.sc (Sem- V)

Subject: Computer Science   **Paper:** OBJECT ORIENTED PROGRAMMING USING C++

Name :Pooja Sharma

Sr. No	Dates	Topics
1.	1-5 September	**Evolution of OOP :** Procedure Oriented Programming, OOP Paradigm, Advantages and disadvantages of OOP over Functional Programming Approach.
2.	7-12 September	**Characteristics of Object Oriented Language :** Classes, Objects, Inheritance, Reusability, User defined Data Types, Polymorphism and Exception Handling.
3.	14-19 September	**Introduction to C++ :** Structure of C++ Program, Identifier and keywords, Constants, Data Types, C++ Operators, Type Compatibility, Variable Declaration, Reference Variable, Statements, Expressions, Manipulators. Input and Output Statements.
4	21-26 September	**Control Statements:** Conditional Expression, Loop Statements, **Storage Class Specifiers :** Automatic, Static, Register, Extern. Array, Pointer Arithmetic, Structures, Pointers and Structures, Unions, Bit Field Typed Enumerations.
5	28-03 October	**Software:** Types of Software- System Software, Application Software, Firmware. Type of System Software: Operating Systems, Language Translators, Utility Programs, Communications Software.
6	5-10 October	**Commonly Used Application Software**: Word Processor, Spreadsheet, Database, Education, Entertainment Software. **Computer Languages:** Machine language, assembly language, high level language, 4GL.
7	12-17 October	**Function in C++ :** Function Prototyping, Defining a function, Types of functions. **Methods of Parameter passing :** by value, by address, by reference, Recursion.
8	19-24 October	**Function Overloading :** Virtual functions, pure virtual functions, operator overloading.
9	26-31 October	**Classes :** Data members and member functions, objects, arrays of class objects, Objects as function arguments, nested classes, inline member functions, static data members and static member functions, friend functions, dynamic memory allocation.

10	2-07 November	**Constructors and Destructors:** Default parameterized and copy constructors, multiple constructors in classes dynamic constructors. Rules for constructors and destructors, Const. objects.
11.	09-14 November	**Inheritance:** single inheritance, inheriting private members, types of derivation, multiple inheritance, multi-level inheritance, hierarchical inheritance, hybrid inheritance, container classes and member access control. Abstract class.
12.	16-21 November	Polymorphism : Methods of achieving polymorphic behaviour. **Pointers:** Pointers and classes, pointer to object, this pointer. **Revision.**
13.	23-03 December	**MST Exams..**

Govt. Shivalik College Naya Nangal

Teaching Plan(2020-21)   Class: B.A & B.sc (Sem- III)

Subject: Computer Science   **Paper: C PROGRAMMING AND DATA STRUCTURES**

Name :Pooja Sharma

Sr. No	Dates	Topics
1.	1-5 September	**Overview of C Language:** C Fundamental : Introduction to C, character set, identifiers, keywords, data types, constants, variable, user defined data types, arithmetic, unary, relational, logical, assignment and conditional operators & expression
2.	7-12 September	Basic structure of a C program. Data I/O statement : single character I/O, formatted I/O, string I/O functions.
3.	14-19 September	**Control Structure:** sequencing, alteration (if-else, switch, break, continue, go to, iteration while, do-while, for) and nested loops.
4	21-26 September	**Functions:** Defining and accessing a function, passing arguments to a function, specifying arguments data types, function prototypes, recursion .
5	28-03 October	Storage Classes- Automatic, External, Static, Register. **Pointers and Structures**: Character pointers, pointer to arrays, array of pointers.
6	5-10 October	Structure and Unions : Defining and processing structure, Unions Preprocessor Directives.
7	12-17 October	**Basic Notations and Array (Data Structure):** Basic concept and notations, data structures, Types of data structure and data structure operations, mathematical notation and functions, algorithmic complexity.
8	19-24 October	Big 'O' notation and time space trade off. Arrays: Linear array, Representation of Linear array in memory, Traversing Linear array, Insertion and deletion in an array, Multi-dimensional array: Row-Major, Column Major order, space array.
9	26-31 October	**Stacks:** Push and Pop in Stack. Representation of stack in memory (Using Arrays)
10	2-07 November	**Queues**: Insertion and deletion operations .
11.	09-14 November	**Searching Techniques:** Linear and binary search **Sorting Techniques:** Insertion sort.
12.	16-21 November	selection sort, bubble sort, merge sort, quick sort. **Revision.**
13.	23-03 December	**MST Exams..**