**Lesson Plan**

**Class –M.Sc. 3rd (Computer Science)**

**Faculty –Mr. Chain Singh**

**Subject –COMPUTER GRAPHICS (Code:17MCS23DA3)**

**Lesson Plan Duration –From October 2021 to January 2022**

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| --- | --- |
| **Time Period** | **Topics** |
| **1Oct. to 9 Oct. 2021** | Computer Graphics and Its Types, Applications of Computer Graphics |
| **11 Oct. to 16 Oct. 2021** | Graphics Display Devices: CRT (Random-Scan and Raster Scan Monitor), Color CRT Monitors, Refresh CRT and Interlacing |
| **18 Oct. to 23 Oct. 2021** | DVST, Emissive and Non- Emissive Display devices; Hard copy devices; Graphics Software Standards |
| **25 Oct. to 30 Oct. 2021** | Scan Converting a Point, Line: Slope Method, DDA and Bresenham’s Algorithm, Circle: Mid-Point and Bresenham’s Algorithm, |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8Nov. to 13 Nov.2021** | Anti- aliasing, Rotations, Translation, Scaling, Reflection, shearing; Homogeneous coordinates: |
| **15Nov. to 20 Nov.2021** | Need, Transformations in Homogeneous Coordinates. Composite Transformation. |
| **22Nov. to 27 Nov.2021** | Scan-Line Polygon Fill Algorithm, Inside-Outside tests, Boundary-Fill Algorithm, Flood Fill Algorithm, |
| **29 Nov. to 4 Dec. 2021** | Cell Array, Character Generation. The Viewing Pipeline, Window to View port coordinate transformation |
| **6 Dec. to 11 Dec. 2021** | Clipping Operations, Point Clipping, Line Clipping, Polygon Clipping for convex and concave polygons, |
| **13 Dec. to 18 Dec. 2021** | Text Clipping, Exterior Clipping. Basic Positioning Method, Rubber Band Methods, Dragging, Painting and Drawing. Constraints, Grids, Gravity field, |
| **20 Dec. to 25Dec. 2021** | Three Dimensional Display Methods Parallel Projection and Perspective Projection; |
| **27 Dec. to 31Dec. 2021** | 3D Transformations: Translation, Rotation & Scaling. Applications of 3D graphics. |
| **1 Jan. to 8 Jan. 2022** | Revision unit 1 |
| **10 Jan. to 15 Jan. 2022** | Revision Unit 2 |
| **17 Jan. to 22 Jan. 2022** | Revision unit 3 |
| **22 Jan. to 29 Jan. 2022** | Revision Unit 4 |

**Lesson Plan**

**Class – APGDCA 1st Sem**

**Faculty – Mr. Chain Singh**

**Subject -PROGRAMMING IN C AND DATA STRUCTURE**

**Paper Code- APGDCA - 103**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

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| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | **Introduction to Problem Solving : Top Down Design, Algorithm, Characteristics of Algorithm,** |
| 15th Nov to 20th Nov | **Implementation of Algorithms, Efficiency of Algorithms, Analysis of Algorithm. Fundamental algorithms, Array Techniques, Merging, Sorting & Searching Techniques,** |
| 22th Nov to 27th Nov | **TextProcessing and Pattern Search, Dynamic Data Structure Algorithms, Recursive Algorithms.Elements of Program Style, Flowcharts : Flowchart Symbols, Its Types, Benefits and Limitations;** |
| 29th Nov to 4th Dec | **Decision Tables, Pseudocodes : Using User Input, Files, Reports and Output on Paper/Console;Practice of Algorithm Development and Flowcharting** |
| 6th Dec to 11th Dec | **C Programming: Basic concepts of programming, problem solving, algorithm designing andflowcharting, concept of structured programming, evolution of C language,** |
| 6th Dec to 11th Dec | **Advantages of C, variablesand constants, operators, expressions, loops, arrays, functions, structures, pointers, file-handling.** |
| 13th Dec to 18th Dec | **Data Structure: Fundamental Notations: Primitive and Composite data types. Time and Space complexity of algorithms.** |
| 20th Dec to 24th Dec | **Data structures: Arrays,** |
| 27th Dec to 1th Jan 2022 | **Stacks, Queues,** |
| 3rd Jan to 8thJan | **Linked Lists,** |
| 10th Jan to 15th Jan | **Trees and Graphs.** |
| 17th Jan to 22th Jan | **File Structures: Concepts of fields, records and files. Sequential file organisation, ISAM, Hashingtechniques,** |
| 24th Jan to 29th Jan | **Inverted Lists and Multilists. Sorting: Internal and External sorting.** |
| 31st Jan to 5th Feb | **Searching techniques and Merging algorithm** |
| 7th Feb to 12thFeb | **Revision** |
| 14thFebl to 19thFeb | **Revision** |
| 21th Feb to 26th Feb | **Revision** |
| 26th Feb Onwards | **Revision** |

**Name of Associate Professor: Ms. Sudesh Lather**

**Class and Section: M.Sc. 1stSEM (Computer Sc.)**

**Subject: Computer Fundamentals and Programming in C**

**Paper Code: 16MCS21C2**

**Lesson Plan**: November 2021 to February 2022

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| --- | --- | --- |
| Week of Month | Topics to be covered | Assignment/Test to be given |
| 12th Nov to 13th Nov | Concept of data and information; Components of Computer: Hardware, Input Device, Output Device | Assignment based on Topics covered |
| 15th Nov to 20th Nov | CPU: Components of CPU; Memory and Storage Devices; Computer Software: System Software and Application Software; Functions of Operating System.  Programming Languages: Machine, Assembly, High Level Language, 4GL; Language Translator; Linker, Loader | Assignment based on Topics covered |
| 22th Nov to 27th Nov | Classification of Computers: Micro, Mini, Mainframe, Super computer. Advantages of Computer,  Limitations of Computer, Range of Applications of Computer, Social concerns of Computer Technology: Positive and Negative Impacts, Computer Crimes, | Assignment based on Topics covered |
| 29th Nov to 4th Dec | Viruses and their remedial solutions. Problem Solving: Problem Identification, Analysis, Flowcharts, Decision Tables, Pseudo codes and algorithms, Program Coding, Program Testing and Execution | Assignment based on Topics covered |
| 6th Dec to 11th Dec | C Programming Fundamentals: Keywords, Variables and Constants, Structure of a C program. Operators & Expressions: Arithmetic, Unary, Logical, Bit-wise, Assignment & Conditional Operators, Library Functions, | Assignment based on Topics covered |
| 13th Dec to 18th Dec | Control Statements: Looping using while, do…while, for statements, Nested loops; decision making using if…else, Else If Ladder | Assignment based on Topics covered |
| 20th Dec to 25th Dec | Switch, break, Continue and Goto Statements. Declaration, initialization of Multidimensional Arrays | Assignment based on Topics covered |
| 27th Dec to 1th Jan 2022 | String: Operations of  Strings; Functions: Defining & Accessing User defined functions, Function Prototype | Assignment based on Topics covered |
| 3rd Jan to 8th Jan | Passing Arguments, Passing array as argument, Recursion, Use of Library Functions; Macro vs. Functions | Assignment and test based on Topics covered |
| 10th Jan to 15th Jan | Pointers: Declarations, Operations on Pointers, Passing to a function, Pointers & Arrays | Assignment based on Topics covered |
| 17th Jan to 22th Jan | Array of Pointers, Array accessing through pointers, Pointer to functions, Function returning pointers | Assignment based on Topics covered |
| 24th Jan to 29th Jan | Dynamic Memory Allocations, Structures and Union: Defining and Initializing Structure, Array within Structure | Assignment based on Topics covered |
| 31st Jan to 5th Feb | Array of Structure, Nesting of Structure, Pointer to Structure, Passing structure and its pointer to Functions | Assignment and test based on Topics covered |
| 7th Feb to 12th Feb | Unions: Introduction to Unions and its Utilities. Files Handing: Opening and closing file in C; Create, Read and Write data to a file | Assignment based on Topics covered |
| 14th Feb to 19th Feb | Modes of Files |  |
| 21st Feb to 26th Feb | Operations on file using C Library Functions; Working with Command Line Arguments. Program Debugging and types of errors | Assignment based on Topics covered |
| 27th Feb Onwards | Revision of all Syllabus | Test and Presentation |
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**Name of Associate Professor: Ms. Sudesh Lather**

**Class and Section: M.SC. 1stSem(Computer Sc.)**

**Subject: Practical Software Lab**

**Paper Code: 16MCS21CL**

Practical Syllabus will be met as per schedule of concerned theory paper i.e. based on 16MCS21C2

**Name of Assistant Professor: Ms. Suman Ahlawat**

**Class and Section: M.Sc. 1stSem(Computer Sc.)**

**Subject: Database Management Systems**

**Paper Code: 16MCS21C3**

**Lesson Plan**: November 2021 to February 2022

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| --- | --- | --- |
| **Week of Month** | **Topics to be covered** | **Assignment/Test to be given** |
| 12th Nov to 13th Nov | Database System vs File Processing System, Characteristics of database approach, Views of data | Assignment based on Topics covered |
| 15th Nov to 20th Nov | DBMS architecture and Data independence, Data Abstraction, Instance and Schemas, Data models | Assignment based on Topics covered |
| 22th Nov to 27th Nov | Database Languages: DDL, DML, DCL, Database Access for applications Programs, Database Users and Administrator, Transaction Management, Database system Structure, Storage Manager, Query Processor, History of Database. | Assignment based on Topics covered |
| 29th Nov to 4th Dec | Database Design and E-R Modeling: Database Design: Conceptual, Logical and Physical Design; | Assignment based on Topics covered |
| 6th Dec to 11th Dec | E-R Model: Entity types, Entity set, attribute and key, Relationships, Relation types, Roles and Structural constraints, Weak entities, Enhanced ER Model | Assignment based on Topics covered |
| 13th Dec to 18th Dec | Relational Model: Introduction to the Relational Model, Integrity Constraint over Relations, Enforcing Integrity constraints, Querying relational data | Assignment based on Topics covered |
| 20th Dec to 25th Dec | Introduction to views, Destroying/altering Tables and Views | Assignment based on Topics covered |
| 27th Dec to 1th Jan 2022 | Relational Algebra and Calculus: Relational Algebra, Set operations, Selection and projection, renaming, Joins, Division, Examples of Algebra overviews | Assignment based on Topics covered |
| 3rd Jan to 8th Jan | Relational calculus: Tuple relational Calculus, Domain relational calculus, Expressive Power of Algebra and Calculus | Assignment based on Topics covered |
| 10th Jan to 15th Jan | Schema Refinement, Functional dependencies: Schema refinement in Data base Design, Problems Caused by redundancy, Decompositions, Problem related to decomposition, Lossless join Decomposition, Dependency preserving Decomposition | Assignment and test based on Topics covered |
| 17th Jan to 22th Jan | Normalization: FIRST, SECOND, THIRD Normal forms, BCNF, Forth Normal Form, Fifth Normal Form | Assignment based on Topics covered |
| 24th Jan to 29th Jan | Transaction Management: ACID Properties, Transactions and Schedules, Concurrent Execution of transaction, Serializability and recoverability | Assignment based on Topics covered |
| 31st Jan to 5th Feb | Concurrency Control: Introduction to Lock Management, Lock Conversions, Dealing with Dead Locks, Concurrency without Locking, Recovery Techniques, Database Security | Assignment based on Topics covered |
| 7th Feb to 12th Feb | Introduction to Oracle: Getting started, Modules of Oracle, Invoking SQLPLUS, Data types, Data Constraints, Operators, Data manipulation - Create, Modify, Insert, Delete and Update; Searching, Matching and Oracle Functions | Assignment based on Topics covered |
| 14th Feb to 19th Feb | Introduction to PL/SQL: Advantages of PL/SQL, Generic PL/SQL Block, Execution Environment, Control Structure, Transactions, Security, database objects. | Assignment based on Topics covered |
| 21st Feb to 26th Feb | Control Structure, Transactions, Security, database objects. | Assignment based on Topics covered |
| 27th Feb Onwards | Revision of all Syllabus | Test and Presentation |
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**Name of Assistant Professor: Ms. Suman Ahlawat**

**Class and Section: B.SC Math hons 3rd Sem (Computer Sc.)**

**Subject: Database Management and Oracle**

**Paper Code: BHM236**

**Lesson Plan**: October 2021 to February 2022

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| **Week of Month** | **Topics to be covered** | **Assignment/Test to be given** |
| 1st Oct to 9th Oct | Basic Concepts: File systems vs DBMS, advantages and disadvantages of DBMS, objectives of a database. Database systems concepts and architecture | Assignment based on Topics covered |
| 11th Oct to 16th Oct | Data Modeling for a database: records and files, abstraction and data integration. | Assignment based on Topics covered |
| 18th Oct to 23rd Oct | Database Management System: Relational, Network, and Hierarchical | Assignment based on Topics covered |
| 1st Nov to 6th Nov | Diwali Holidays |  |
| 8th Nov to 13th Nov | Relational Data Manipulations: Relational Algebra, Relational Calculus, SQL | Assignment based on Topics covered |
| 15th Nov to 20th Nov | Relational Database Design: Functional dependencies, Finding keys; 1st to 3rd NFs | Assignment based on Topics covered |
| 22th Nov to 27th Nov | CNF, Lossess Join and Dependency preserving decomposition | Assignment based on Topics covered |
| 29th Nov to 4th Dec | Query Processing: General strategies for query processing, query optimization, query processor | Assignment based on Topics covered |
| 6th Dec to 11th Dec | Database security issues and recovery techniques. | Assignment based on Topics covered |
| 13th Dec to 18th Dec | Introduction to Oracle: Modules of Oracle, Invoking SQLPLUS, Data types, Data Constraints | Assignment and test based on Topics covered |
| 20th Dec to 25th Dec | Operators, Data manipulation: Create, Modify, Insert, Delete and Update; Searching, Matching and Oracle Functions. | Assignment based on Topics covered |
| 27th Dec to 1th Jan 2022 | SQL\*Forms: Form Construction, user-defined form, multiple-record form, Master-detail form. PL/SQL Blocks in SQL\*Forms, | Assignment based on Topics covered |
| 3rd Jan to 8th Jan | PL/SQL syntax, Data types, PL/SQL functions, Error handling in PL/SQL, package functions, package procedures, Oracle transactions. | Assignment based on Topics covered |
| 10th Jan to 15th Jan | SQL\*ReportWriter: Selective dump report, Master-detail Report, Control-break Report, Test report. | Assignment based on Topics covered |
| 17th Jan to 22th Jan | Database Triggers: Use & type of database Triggers, Database Triggers Vs SQL\*Forms, | Assignment based on Topics covered |
| 24th Jan to 29th Jan | Database Triggers Vs. Declarative Integrity Constraints, BEFORE vs AFTER Trigger Combinations, Creating a Trigger, Dropping a Trigger. | Assignment based on Topics covered |
| 31st Jan Onwards | Revision of all Syllabus | Test and Presentation |

**Name of Assistant Professor: Ms. Suman Ahlawat**

**Class and Section: APGDCA 1ST Sem (Computer Sc.)**

**Subject: Practical-I**

**Paper Code: APGDCA-105**

Practical Syllabus will be met as per schedule of concerned theory paper i.e. based on APGDCA-101 &103

**Name of Assistant Professor: Ms. Suman Ahlawat**

**Class and Section: M.SC. 3rd Sem (Computer Sc.)**

**Subject: Practical Software Lab**

**Paper Code: 17MCS23CL**

Practical Syllabus will be met as per schedule of concerned theory paper i.e. based on 17MCS23C1, 17MCS23C2, 17MCS23DA3

**Name of Associate Professor: Dr.Nisha Malik**

**Class and Section: M.Sc. 1stSEM (Computer Sc.)**

**Subject: Computer Organisation and Architecture**

**Paper Code: 16MCS21C4**

**Lesson Plan**: November 2021 to February 2022

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| **Week of Month** | **Topics to be covered** | **Assignment/Test to be given** |
| 12th Nov to 13th Nov | Number Systems: Binary, Octal and Hexadecimal | Assignment based on Topics covered |
| 15th Nov to 20th Nov | Integer andFloating-point representation, Character codes: ASCII and EBCDIC | Assignment based on Topics covered |
| 22th Nov to 27th Nov | Boolean Algebra and Logic Gates: OR, AND, NOT,XOR Gates | Assignment based on Topics covered |
| 29th Nov to 4th Dec | De Morgan’s theorem; Universal building blocks; Simplifying logic circuits: sum ofproduct and product of sum form | Assignment based on Topics covered |
| 6th Dec to 11th Dec | Karnaugh Map simplification ion; Combinational logic blocks (Adders, Multiplexers, Encoders, Decoder) | Assignment based on Topics covered |
| 13th Dec to 18th Dec | Flip-Flops, Types of Flip-Flops, Registers, Counters, Register Transfer Language, Bus and Memory Transfer | Assignment based on Topics covered |
| 20th Dec to 25th Dec | Micro operations: Arithmetic, Logic & Shift Micro operations | Assignment based on Topics covered |
| 27th Dec to 1th Jan 2022 | Basic Computer Organization and Design: Instructions Codes, Register reference, Memory Reference & Input-Output instructions | Assignment based on Topics covered |
| 3rd Jan to 8th Jan | Instruction Cycle, Timing and Control, Interrupts; Design of  Control unit: Hardwired control unit, Micro-programmed control unit | Assignment and test based on Topics covered |
| 10th Jan to 15th Jan | Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Cache Memory, Virtual Memory | Assignment based on Topics covered |
| 17th Jan to 22th Jan | Register Organization and Parallel Processing: General Register Organization, Stack  Organization, Instruction Formats, Addressing Modes; Data Transfer & Manipulation Instructions, | Assignment based on Topics covered |
| 24th Jan to 29th Jan | Dynamic Memory Allocations, Structures and Union: Defining and Initializing Structure | Assignment based on Topics covered |
| 31st Jan to 5th Feb | Input-Output Organization: Peripheral Devices, Input-Output interface, Asynchronous Data  Transfer, Modes of transfer | Assignment and test based on Topics covered |
| 7th Feb to 12th Feb | Priority interrupt, Direct Memory Access (DMA) | Assignment based on Topics covered |
| 14th Feb to 19th Feb | Input-output processors (IOP), Serial communication. Multi-processors, characteristics of multi-processors,  Interconnection structures, | Assignment based on Topics covered |
| 21st Feb to 26th Feb | Inter-processor Arbitration, Inter-processor Communication and Synchronization, Cache Coherence. | Assignment based on Topics covered |
| 27th Feb Onwards | Revision of all Syllabus | Test and Presentation |
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**Name of AssociateProfessor: Dr. Nisha Malik**

**Class and Section: APGDCA 1st SEM (Computer Sc.)**

**Subject: Computer Organisation and Architecture**

**Paper Code: APGDCA 104**

**Lesson Plan**: November 2021 to February 2022

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| **Week of Month** | **Topics to be covered** | **Assignment/Test to be given** |
| 12th Nov to 13th Nov | Number Systems: Binary, Octal and Hexadecimal | Assignment based on Topics covered |
| 15th Nov to 20th Nov | Integer andFloating-point representation, Character codes: ASCII and EBCDIC | Assignment based on Topics covered |
| 22th Nov to 27th Nov | Boolean Algebra and Logic Gates: OR, AND, NOT,XOR Gates | Assignment based on Topics covered |
| 29th Nov to 4th Dec | De Morgan’s theorem; Universal building blocks; laws and theorems of Boolean algebra, Simplifying logic circuits: sum ofproduct and product of sum form | Assignment based on Topics covered |
| 6th Dec to 11th Dec | Algebraic Simplification, Karnaugh Map simplification ion; Combinational logic blocks (Adders, Multiplexers, Encoders, Decoder) | Assignment based on Topics covered |
| 13th Dec to 18th Dec | Flip-Flops, Types of Flip-Flops, Registers, Counters, Register Transfer Language, Bus and Memory Transfer | Assignment based on Topics covered |
| 20th Dec to 25th Dec | Micro operations: Arithmetic, Logic & Shift Micro operations | Assignment based on Topics covered |
| 27th Dec to 1th Jan 2022 | Basic Computer Organization and Design: Instruction and instructions Codes, Computer instructions, timing and Control, Instruction Cycle, Memory Reference Instructions, Input-Output and Interrupts; Complete Computer Description | Assignment based on Topics covered |
| 3rd Jan to 8th Jan | Programming the Basic Computer: Machine Language, Assembly Language, The assembler, program loops, programming Arithmetic and Logic, Subroutines, Inputs-Outputs programming | Assignment and test based on Topics covered |
| 10th Jan to 15th Jan | Micro-programmed Control: Control Memory, Address Sequencing, Micro-programme, Design of Control Unit | Assignment based on Topics covered |
| 17th Jan to 22th Jan | Central Processing Unit: General Register Organization, Stack  Organization, Instruction Formats, Addressing Modes; Data and Transfer Manipulation, Program Control, Reduced Instruction Set Computer | Assignment based on Topics covered |
| 24th Jan to 29th Jan | Pipeline and vector Processing parallel processing, Pipelining, Arithmetic Pipeline, RISC Ouoekubem Vector Processing, Array Processors | Assignment based on Topics covered |
| 31st Jan to 5th Feb | Computer Arithmetic: addition and Subtraction, Multiplication Algorithms, Division Algorithm, Floating -Point arithmetic Operations, decimal arithmetic Unit, Decimal Arithmetic Operations | Assignment and test based on Topics covered |
| 7th Feb to 12th Feb | Input-Output Organization: Peripheral Devices, Input-Output interface, Asynchronous Data  Transfer, Modes of transfer  Priority interrupt, Direct Memory Access (DMA) | Assignment based on Topics covered |
| 14th Feb to 19th Feb | Input-output processors (IOP), Serial communication. Multi-processors, characteristics of multi-processors,  Interconnection structures, | Assignment based on Topics covered |
| 21st Feb to 26th Feb | Inter-processor Arbitration, Inter-processor Communication and Synchronization, Cache Coherence. | Assignment based on Topics covered |
| 27th Feb Onwards | Revision of all Syllabus | Test and Presentation |
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**Name of AssociateProfessor: Ms. Nisha Malik**

**Class and Section: M.SC. 3rd Sem (Computer Sc.)**

**Subject: Practical Software Lab**

**Paper Code: 17MCS23CL**

Practical Syllabus will be met as per schedule of concerned theory paper i.e. based on 17MCS23C1, 17MCS23C2, 17MCS23DA3

**Lesson Plan**

**Class –BBA 1st Sem**

**Faculty – Neha Narwal**

**Subject –Computer fundamentals**

**Paper Code- BBAN104**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

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| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | Digital and analogcomputer,evolution of computer |
| 15th Nov to 20th Nov | Input output devices |
| 22th Nov to 27th Nov | Printer and plotters |
| 29th Nov to 4th Dec | **Types of memory** |
| 6th Dec to 11th Dec | **Assignment of unit 1** |
| 6th Dec to 11th Dec | **Test of Unit 1** |
| 13th Dec to 18th Dec | Number system |
| 20th Dec to 24th Dec | Mathematical operation |
| 27th Dec to 1th Jan 2022 | Hexadecimal and octal |
| 3rd Jan to 8thJan | **Assignment and test of unit 2.** |
| 10th Jan to 15th Jan | Intro to os,history,types of os |
| 17th Jan to 22th Jan | File management |
| 24th Jan to 29th Jan | Memory management |
| 31st Jan to 5th Feb | **Test of Unit III** |
| 7thFeb to 12th Feb | Computer app in office its uses |
| 14thFeb to 19th Feb | Basics of computer |
| 21st Feb to 26th Feb | **Test on Unit - 4** |
| 27thFeb Onwards | **Revision** |

**Lesson Plan**

**Class –BBA5th Sem**

**Faculty – Neha Narwal**

**Subject –Computer networking and internet**

**Paper Code- BBAN504**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

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| --- | --- |
| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | Intro to network |
| 15th Nov to 20th Nov | Network topology |
| 22th Nov to 27th Nov | Transmission media |
| 29th Nov to 4th Dec | **Types of memory** |
| 6th Dec to 11th Dec | **Assignment of unit 1** |
| 6th Dec to 11th Dec | **Test of Unit 1** |
| 13th Dec to 18th Dec | OSI model |
| 20th Dec to 24th Dec | TCP/IP model |
| 27th Dec to 1th Jan 2022 | cryptography |
| 3rd Jan to 8thJan | **Assignment and test of unit 2.** |
| 10th Jan to 15th Jan | Internet |
| 17th Jan to 22th Jan | Web search engine |
| 24th Jan to 29th Jan | newsgroup |
| 31st Jan to 5th Feb | **Test of Unit III** |
| 7thFeb to 12th Feb | intranet |
| 14thFeb to 19th Feb | http |
| 21st Feb to 26th Feb | **Test on Unit - 4** |
| 27thFeb Onwards | **Revision** |

**Lesson Plan BCA 2nd Year**

**OPERATING SYSTEM**

**PAPER CODE- BCA 201**

**Extension Lecturer- Parmod Kumar CS Department, GPGCW, Rohtak.**

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| --- | --- |
| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Fundamentals of Operating system: Introduction to Operating System, its need and operating System services, Early systems, Structures - Simple Batch, Multi programmed |
| **11 Oct-16 Oct** | timeshared, Personal Computer, Parallel, Distributed Systems, Real-Time Systems. Process Management: Process concept, Operation on processes, |
| **18 Oct - 23 Oct** | Cooperating Processes, Threads, and Inter-process Communication |
| **25 Oct -30 Oct** | Test & Revision |
| **1 Nov-6 Nov** | **Diwali Vacations** |
| **8 Nov-13 Nov** | CPU Scheduling: Basic concepts, Scheduling criteria, Scheduling algorithms : FCFS, SJF, Round Robin & Queue Algorithms. |
| **15 Nov -20 Nov** | Deadlocks: Deadlock characterization, Methods for handling deadlocks, Banker’sAlgorithm |
| **22 Nov – 27 Nov** | Memory Management: Logical versus Physical address space, Swapping, Contiguous allocation, Paging, Segmentation |
| **29 Nov – 4 Dec** | Revision |
| **6 Dec – 11 Dec** | Virtual Memory: Demand paging, Performance of demand paging, Page replacement, Page replacement algorithms, Thrashing. |
| **13 Dec – 18 Dec** | File management: File system Structure, Allocation methods: Contiguous allocation, Linked allocation, Indexed allocation, |
| **20 Dec – 25 Dec** | Free space management: Bit vector, Linked list, Grouping, Counting. |
| **27 Dec – 1 Jan** | Queries |
| **3 Jan – 8 Jan** | Device Management: Disk structure, Disk scheduling: |
| **10 Jan – 15 Jan** | FCFS, SSTF, SCAN, C-SCAN, LOOK, C-LOOK. |
| **17 Jan – 22 Jan** | Revision |
| **24 Jan – 31 Jan** | Queries |

**Lesson Plan B.com 1st sem.**

**Basics of Computer**

**PAPER CODE- 1.06**

**Extension Lecturer- Parmod Kumar CS Department, GPGCW, Rohtak.**

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| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Introduction to Computers: Definition of Computer; Components of Computer; Characteristics of Computers |
| **11 Oct-16 Oct** | History evolution of Computers; Generation of computers; Classification of Computers- According to Purpose, According to Technology , According to Size and Storage Capacity |
| **18 Oct - 23 Oct** | Human being VS Computer; Difference between Computer and Calculator |
| **25 Oct -30 Oct** | Test & Revision |
| **1 Nov-6 Nov** | **Diwali Vacations** |
| **8 Nov-13 Nov** | Input Devices: Mouse, Keyboard, Light pen, Track Ball, Joystick, MICR, Optical Mark reader and Optical Character Reader Scanners, Voice system, Web Camera |
| **15 Nov -20 Nov** | Output Devices: Hard Copy Output Devices; Line Printers, Character Printers, Chain Printers, Dot-matrix Printers, Daisy Wheel Printer, Laser Printers, Ink Jet Printers |
| **22 Nov – 27 Nov** | Memory Management: Logical versus Physical address space, Swapping, Contiguous allocation, Paging, Segmentation |
| **29 Nov – 4 Dec** | Plotters, Soft Copy device –Monitor, Sound Cards and speakers. |
| **6 Dec – 11 Dec** | Memory and Mass Storage Devices: Characteristics of Memory Systems; Memory Hierarchy; Types of Primary Memory; RAM and ROM |
| **13 Dec – 18 Dec** | Secondary and Back-up; Magnetic Disks, Characteristics and classification of Magnetic Disks; Optical Disks; Magnetic Taps. |
| **20 Dec – 25 Dec** | Free space management: Bit vector, Linked list, Grouping, Counting. |
| **27 Dec – 1 Jan** | Queries |
| **3 Jan – 8 Jan** | MS- Word: Fundamentals of MS-Word, Features of MS-Word, Menus, Formatting and Standard Toolbars, Ruler |
| **10 Jan – 15 Jan** | Scroll Bar, Creating, Editing, Saving, export and import files, inserting and copying the files, Working with frames, Paragraph formatting, Columns, Pictures, Tables, Macros and Mail Merge. |
| **17 Jan – 22 Jan** | Revision |
| **24 Jan – 31 Jan** | Queries |

**Lesson Plan (Even Semester)**

**(October 2020-January2021)**

**Class –B.Sc. N.M. (5th -Sem)**

**Faculty - Dr. RohiniSharma**

**Subject –5.2: Introduction to Internet and Web Technologies**

**Lesson Plan Duration - From October 2020 to January 2021**

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| --- | --- |
| **Time Period** | **Topics** |
| **8 October- 16October** | *(Unit-1):*Introduction to Internet, Benefits of Internet, WWW, Hardware and software requirement for internet |
| **18 October- 23 October** | internet protocols, applications of internet, Internet Tools- Telnet |
| **25 October- 30 October** | FTP,Gopher, Archie, Veronica,  Mosaic, |
| **1November - 7November** | Deepawali Vacations |
| **8 November - 13 November** | WAIS, IRC, Online Chatting, Messaging |
| **15 November - 20 November** | Conferencing Concepts, resources of internet, Test of Unit 1 |
| **22 November - 27 November** | (Unit -2): E-Mail mailing lists, Internet addressing, internet service provider (ISP),internet in India- Shell account, |
| **29 November - 4December** | TCP/IP account, Home page and Web Site, internet accessing, internet terminology |
| **6 December - 11 December** | Internet security  problems and solutions. Overview of Intranet and its applications, |
| **13 December - 18 December** | Web Browsers, Search Engines,  Categories of Search Engines, Searching Criterion, Surfing the Net, Hypertext Transfer Protocol (HTTP),  URL, Test of Unit 2 |
| **20 December - 25 December** | (Unit 3): HTML: Internet Language, Understanding HTML, Create a Web Page |
| **27 December - 01January** | Linking to other Web Pages,  Publishing HTML Pages, Text Alignment and Lists, Text Formatting Fonts Control |
| **03 January - 08 January** | E-mail Links and  link within a Page, Creating HTML Forms. Test of Unit 3 |
| **10 January - 15 January** | (unit 4): Creating Web Page Graphics, Putting Graphics on a Web Page, Custom Backgrounds and Colors |
| **17 January - 22 January** | Creating Animated Graphics., Web Page Design and layout |
| **24 January - 31 January** | Advanced Layout with Tables, Using Style  Sheets. Test of Unit 4  Revision |

**Class –B.Sc. N.M. (5th - Sem)**

**Faculty - Dr. Rohini Sharma**

**Subject –Practical Lab Based On 5.2: Introduction to Internet and Web Technologies and 5.1: Database Management System**

**Lesson Plan Duration - From October 2020 to January 2021**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **8 October- 16 October** | **SQL**: Types & components of SQL, Data Definition and data types |
| **18 October- 23 October** | SQL: Data definition commands |
| **25 October- 30 October** | Data  manipulation commands, |
| **1 November - 7 November** | Data Control Commands Specifying Constraints(Primary Constraint,. Foreign  key, Unique, Not Null) in SQL |
| **8 November - 13 November** | Schema, Basic Queries in SQL, Insert, Delete and Update operations. |
| **15 November - 20 November** | Inbuilt Date, String functions. Commit, Rollback, Save points. |
| **22 November - 27 November** | Introduction to HTML, HTML attributes, Tags |
| **29 November - 4 December** | Font Alignment, Picture , color |
| **6 December - 11 December** | Tables in HTML, Numbering, Table Borders, Padding, Headers, Colspan, Rowspan |
| **13 December - 18 December** | Text formatting, Email\_Link, Hyperlink |
| **20 December - 25 December** | HTML forms |
| **27 December - 01 January** | Create links to other sections within same page |
| **03 January - 08 January** | Create Web page |
| **10 January - 15 January** | Publishing HTML pages |
| **17 January - 22 January** | Revision |
| **24 January - 31 January** | Revision |

**Lesson Plan**

**Class - MASTER OF SCIENCE (COMPUTER SCIENCE) – (3rd -Sem)**

**Faculty - Dr. Rohini Sharma**

**Subject –ARTIFICIAL INTELLIGENCE (Code: 17MCS23DB3)**

**Lesson Plan Duration - From October 2020 to January 2021**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **8 October- 16 October** | *(Unit-1):*State space search: Production systems, Search space control, Depth first search, unknown search |
| **18 October- 23 October** | Hill climbing best first search, branch and bound,Best First Search, Problem Reduction, |
| **25 October- 30 October** | ConstraintsSatisfaction,Means End Analysis Test and Revision of Unit 1 |
| **1 November - 7 November** | Deepawali Vacations |
| **8 November - 13 November** | (Unit -2): Predicate logic: Skolemization queries  Unification, Modus pones,dependency directed back tracking |
| **15 November - 20 November** | Resolution,Forward reasoning Conflict resolution,Backward reasoning. Use of non-back track., Test of Unit 2 |
| **22 November - 27 November** | (Unit 3): Sensing, Speech recognition, Vision, Action, Neural networks: Introduction |
| **29 November - 4 December** | Comparison of artificial neural networks with biological neural networks |
| **6 December - 11 December** | Learning in neural networks, Perceptions link within a Page, Back propagation networks, application of neural networks. |
| **13 December - 18 December** | Fuzzy logic: Definition, Difference between Boolean and Fuzzy logic, fuzzy subset |
| **20 December - 25 December** | fuzzy membership function, fuzzy expert system, |
| **27 December - 01 January** | Inference process for fuzzy expert system, fuzzy controller, Test of Unit 3 |
| **03 January - 08 January** | (unit 4):Expert system development life cycle: Problem selection, Prototype construction, Formalization |
| **10 January - 15 January** | Implementation, Evaluation, Knowledge acquisition:Knowledge engineer, Cognitive behavior, Acquisition techniques. |
| **17 January - 22 January** | Knowledge representation: Level of representation, Knowledge representation schemes, Formal logic, Inference Engine, Semantic net, Frame, Scripts. |
| **24 January - 31 January** | Test of Unit 4  Revision |

**Lesson Plan**

**Class – M.Sc (Computer Sc.) 1st Sem**

**Faculty – Dr. Subita Kumari**

**Subject -** **Discrete Mathematics**

**Paper Code- 16MCS21C1**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | Sets, Subsets, Equal Sets Universal Sets, Finite and Infinite Sets |
| 15th Nov to 20th Nov | Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set, Simple Applications. |
| 22th Nov to 27th Nov | Properties of Relations, Equivalence Relation, Partial Order Relation |
| 29th Nov to 4th Dec | Function: Domain and Range, Onto, Into and One to One Functions |
| 6th Dec to 11th Dec | Composite and Inverse Functions.  **Assignment of unit 1** |
| 6th Dec to 11th Dec | Proposition logic  **Test of Unit 1** |
| 13th Dec to 18th Dec | Basic logic, Logical Connectives, truth tables |
| 20th Dec to 24th Dec | Tautologies, contradiction, Logical implication, Logical equivalence, Normal forms, Theory of Inference and deduction |
| 27th Dec to 1th Jan 2022 | Predicates and quantifiers. Mathematical Induction. |
| 3rd Jan to 8th Jan | **Assignment and test of unit 2.** |
| 10th Jan to 15th Jan | Matrices: Definition, Types of Matrices, Addition, Subtraction, Scalar Multiplication and Multiplication of Matrices |
| 17th Jan to 22th Jan | Adjoint and Inverse of a matrix. |
| 24th Jan to 29th Jan | Determinants: Definition, Minors, Cofactors, Properties of Determinants, Applications of determinants in finding area of triangle |
| 31st Jan to 5th Feb | Solving a system of linear equations. **Test of Unit III** |
| 7th Feb to 12th Feb | Introduction to defining language, Kleene Closure, Arithmetic expressions, Chomsky Hierarchy, Regular expressions. |
| 14th Feb to 19th Feb | Conversion of regular expression to Finite Automata, NFA, DFA, Conversion of NFA to DFA, FA with output: |
| 21st Feb to 26th Feb | Moore machine, Mealy machine.  **Test on Unit - 4** |
| 27th Feb Onwards | **Revision** |

**Lesson Plan**

**Class – B.Sc (Pass) 5th Sem**

**Faculty – Dr. Subita Kumari**

**Subject -** **DBMS**

**Lesson Plan Duration - From Oct. 2021 to January 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **Week 1, 7 Oct - 9Oct** | Basic Concepts – Data, Information, Records and files. Traditional file – based Systems-File Based Approach. |
| **Week 2, 14 Oct-16 Oct** | Limitations of File Based Approach, Advantages and Disadvantages of DBMS. |
| **Week 3, 21 Oct - 23 Oct** | Database Approach-Characteristics of Database Approach, Database Management System (DBMS),Components of DBMS Environment, DBMS Functions. |
| **Week 4, 28 Oct -30 Oct** | Classification of Database Management System. Roles in the Database Environment - Data and Database Administrator. |
| **4 November-6 November** | **Diwali Break** |
| **Week 5, 11 Nov-13 Nov** | Centralized and Client Server architecture to DBMS. Database System Architecture – Three Levels of Architecture, External, Conceptual and Internal Levels, Schemas, Mappings and Instances. |
| **Week 6, 18 Nov -20 Nov** | Data Independence – Logical and Physical Data Independence. Data Models: Records- based Data Models, Object-based Data Models, Physical Data Models and Conceptual Modeling. Hierarchical, network and relational model |
| **Week 7, 25 Nov – 27 Nov** | Assignment and Test of (unit 1 & unit 2) |
| **Week 8, 2 Dec – 4 Dec** | Entity-Relationship Model – Entity Types, Entity Sets, Attributes and keys, Relationship, relationship sets, Role name & recursive relationship and structural constraints, Conceptual design using E-R Diagrams. |
| **Week 9, 9 Dec – 11 Dec** | Relational Data Model:-Introduction, Properties of Relations, Keys, Integrity Constraints over Relations, Views. |
| **Week 10, 16 Dec – 18 Dec** | Relational Database Design: Functional Dependencies, Normalisation. |
| **Week 11, 23 Dec – 25 Dec** | Normalisation Form 1st to 3rd ,BCNF |
| **Week 12, 30 Dec – 1 Jan** | Lossless Join and Dependency preserving decomposition. |
| **Week 13, 6Jan – 8 Jan** | SQL: Types & components of SQL, Data Definition and data types, Data definition commands, Data manipulation commands, Data Control Commands Inbuilt Date, String functions. Commit, Rollback, Save points. |
| **Week 14, 13 Jan – 15 Jan** | **Views:** Introduction, Advantages of creating views, Features, Destroying/ Altering table & Views. |
| **Week 15, 20 Jan – 22 Jan** | Specifying Constraints(Primary Constraint,. Foreign key, Unique, Not Null) in SQL, Schema, Basic Queries in SQL, Insert, Delete and Update operations. |
| **Week 16, 27Jan – 31 Jan** | **Test of unit 3 and 4 and revision** |

**Lesson Plan**

**Class – MSC 3RD SEM**

**Faculty – Ms. Monica Rathee**

**Subject –VISUAL PROGRAMMING**

**Paper Code- 17MCS23C2**

**Lesson Plan Duration - From October2021 to January 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **1Oct. to 9 Oct. 2021** | VB IDE, An overview of VB project types, VB as event-driven & object-based language, Default Controls in Tool Box: Label Box, Text Box, |
| **11 Oct. to 16 Oct. 2021** | Command Button, List Box, Combo Box, Picture & Image Box, Shape box, Timer, Option button, Check Box & Frames. |
| **18 Oct. to 23 Oct. 2021** | Variables, Constants, Data types, Variable Scope, Arithmetic operations, String Operations, |
| **25 Oct. to 30 Oct. 2021** | Built-in functions, I/O in VB, Branching & Looping statements, Procedures, Arrays, Collection. |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8 Nov. to 13 Nov.2021** | : Working with multiple forms; Loading, Showing and Hiding forms; Creating Forms at Run Time. **Assignment and test of Unit -1** |
| **15 Nov. to 20 Nov.2021** | Introduction to MDI forms. Dialog Boxes: Types of Dialog boxes, Working with Common Dialog Box |
| **22 Nov. to 27 Nov.2021** | Introduction to Menu Editor, Adding Menus and its manipulation: Modifying and Deleting Menu Items, Creating Submenus. |
| **29 Nov. to 4 Dec. 2021** | Introduction: Scroll Bar, Slider Control, Tree View, List View, Rich Text Box Control. |
| **6 Dec. to 11 Dec. 2021** | , Toolbar, Status Bar, Progress Bar, Cool bar, Image List, Tab Strip **Assignment and test of Unit -2** |
| **13 Dec. to 18 Dec. 2021** | Working with Graphics: Using Paint, Line, Circle, RGB and other related method, manipulating graphics. |
| **20 Dec. to 25Dec. 2021** | File Handling in VB: Creating a File, Saving and Opening files in Rich text box and Picture box, Handling file operations. **Assignment and Test of Unit-3** |
| **27 Dec. to 31Dec. 2021** | The Data Controls and Data-Bound Controls; Using DAO, RDO, ADO. |
| **1 Jan. to 8 Jan. 2022** | ActiveX controls: Creating & Using ActiveX Controls, Creating |
| **10 Jan. to 15 Jan. 2022** | & Using ActiveX Documents, ActiveX EXE vs. ActiveX DLL. |
| **17 Jan. to 22 Jan. 2022** | Presentation |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

**Lesson Plan**

**Class – Bsc Maths Hons 1st Sem**

**Faculty – Mrs Monica Rathee**

**Subject –Computer Fundamentals and MS-OFFICE**

**Paper Code- BHM 116**

**Lesson Plan Duration - From October 2021 to January 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **1 Oct. to 9 Oct. 2021** | Fundamentals of Computer: Model of a digital computer, Functioning of a digital computer, Historical evolution of computers, classification of computers, Human being vs computer, |
| **11 Oct. to 16 Oct. 2021** | , Input / Output devices, Storage devices, Memory and mass storage devices, characteristics of memory systems, types of memory |
| **18 Oct. to 23 Oct. 2021** | RAM, ROM, concepts of Virtual and Cache memory, Types of software, Application and system software and its functions, time sharing, multiprocessing, Applications of Computer.  **Assignment and Test of Unit-1** |
| **25 Oct. to 30 Oct. 2021** | Introduction to Windows: Types of windows, windows as an operating system, |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8 Nov. to 13 Nov.2021** | windows explorer, using clipboard, using paintbrush, control panel, installing a printer. |
| **15 Nov. to 20 Nov.2021** | MS Power Point: Introduction, Power point slide creation, |
| **22 Nov. to 27 Nov.2021** | Slide-show, Adding graphics,**Assignment and test of Unit -2** |
| **29 Nov. to 4 Dec. 2021** | Formatting Customizing and Printing.. |
| **6 Dec. to 11 Dec. 2021** | MS-Word: Introduction to MS-Word, Standard Toolbar, Word Wrap, |
| **13 Dec. to 18 Dec. 2021** | Text formatting, Indents, Tabs, Formatting paragraphs, **Assignment and Test of Unit-3** |
| **20 Dec. to 25Dec. 2021** | Applying Effects to text, Applying animation to text. |
| **27 Dec. to 31Dec. 2021** | MS Excel: Introduction to MS Excel, Working with Toolbars, Formatting, Formulas, |
| **1 Jan. to 8 Jan. 2022** | Macros and other additional functions. |
| **10 Jan. to 15 Jan. 2022** | **Test of Unit-4, Revision** |
| **17 Jan. to 22 Jan. 2022** | **Presentation** |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

**NAME OF EXTENSION LECTURER: LALITA YADAV**

**CLASS AND SECTION: B.COM(H)-3rd Sem**

**SUBJECT: Basics of Information Technology**

**LESSION PLAN:2021-2022 SESSION**

|  |  |
| --- | --- |
| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 Oct - 9Oct** | Essentials of Computers: Concept of data, information and data processing, Levels or type of information, Uses of information, Business data Processing Cycle, Methods of data processing, Application of Electronic data processing. |
| **Week 2, 11 Oct-16 Oct** | Memory and Mass Storage Devices: Introduction of Memory System, Types of Memory-Primary and Secondary Memory, RAM and ROM |
| **Week 3, 18 Oct - 23 Oct** | Types of Secondary Storage Devices; Software Concepts: Types of Software and their role, System Languages and Translators, Functions and Types an Operating System. |
| **Week 4, 25 Oct -30 Oct** | , Data Communications: Basic elements of a Communication System, Forms of Data Transmission, |
| **Week 5, 8 Nov-13 Nov** | Data transmission speed, Modes of Data Transmission:Analog and Digital data transmissions, |
|  |  |
|  |  |
| **Week 8, 29 Nov – 4 Dec** | Data Transmission Media; Wire Cables, Microwave, Fiber-optics, Communication Satellites. Emerging Trends in IT: Electronic Commerce(E-Commerce), Types of E-Commerce, Advantages and Disadvantages of E-commerce, |
| **Week 9, 6 Dec – 11 Dec** | Application of E-commerce, process in e- commerce, Types of an Electronic Payment System, Security issues in E-commerce, Security Schemes; Electronic data Interchange (EDI); |
| **Week 10, 13 Dec – 18 Dec** | Mobile communication, Bluetooth Communication, Infrared communication, Smart Card. |
| **Week 11, 20 Dec – 25 Dec** | Computer Networks: Introduction to Computer Network, Types of Network; Local Area Network, Wide Area Network, Types of Public and Private Network, Network Topology; Internet and its Application, History of Internet, Benefits of Internet, |
| **Week 12, 27 Dec – 1 Jan** | ISP, Internet Accounts, Internet Addressing, Information Technology: Impact of IT on Business environment; Applications of IT. Multimedia: Concept of Multimedia, Multimedia Components, Multimedia Applications. |
| **Week 13, 3 Jan – 8 Jan** | Presentation with Power- Point: Features of Power-point, Creating presentation the easy way, Working with different views, working with graphics in Power Point, Sound effects and Animations effects, Printing in Power-point. |
| **Week 14, 10 Jan – 15 Jan** | Introduction to Accounting Packages-Tally: Features of Tally, Preparation of Vouchers, Salary statement, Maintaining of Inventory records, Maintenance of Accounting Books and final Accounts, Generating and Printing reports. |
| **Week 15, 17 Jan – 22 Jan** | **Revision** |
| **Week 16, 24 Jan – 31 Jan** | **Test** |

**Lesson Plan**

**Class – APGDCA 1st Sem**

**Faculty – Ms. Lalita Yadav**

**Subject -** **FOUNDATION COURSE IN IT & MS-OFFICE 2000**

**PAPER CODE : APGDCA-101**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | Historical evolution of computers, Classification of computers, Model of a digital computer, functioning of a digital computer, Why computers are useful? |
| 15th Nov to 20th Nov | Human being Vs computer, Computer as a tool, Applications of computers (desktop publishing, sports, design and manufacturing, research and design, military, robotics, planning & management, marketing, medicine & health care, arts, communications). |
| 22th Nov to 27th Nov | Number systems and Boolean Algebra : What is Number system, necessity of binary number system, binary, octal and hexadecimal number system, inter-conversion of numbers, binary arithmetic. |
| 29th Nov to 4th Dec | Input/Output Devices : Punched cards, card-readers, key-punching machines, keyboards, mouse, joysticks, trackballs, digitizer, voice-recognition, optical-recognition, scanners, terminals, point-of-sale terminals, machine-vision systems. |
| 6th Dec to 11th Dec | Hard- copy devices : Print quality, Impact printers - DMPs, Daisy-wheel printers, Line-printers, Drum printers, Chain printers; Non-impact printers - Inkjet, Laser, Thermal, LED; Plotters. Soft-copy devices : monitors, video-standards (VGA and SVGA). Memory & Mass Storage Devices: |
| 6th Dec to 11th Dec | Characteristics of memory systems, types of memory, RAM, ROM, magnetic disks - floppy disk, hard-disk; optical disks - CD, CD-I, CD-ROM; Magnetic tapes; |
| 13th Dec to 18th Dec | Concepts of Virtual and Cache memory. Revision |
| 20th Dec to 24th Dec | Software Concepts : Introduction, types of software - System & Application software; Language translators - Compiler, Interpreter, Assembler; |
| 27th Dec to 1th Jan 2022 | Operating system - Characteristics, bootstrapping, types of operating, operating system as a resource manager; BIOS; |
| 3rd Jan to 8th Jan | Assignment and test . |
| 10th Jan to 15th Jan | System utilities - Editor, Loader, Linker, File Manager. Concept of GUI, GUI standards. Social Concerns : Positive and Negative Impacts of Computer Technology, Viruses and their types, |
| 17th Jan to 22th Jan | • MS-Word : Introduction to MS-Word, Standard Toolbar, WordWrap, Text formatting, Formatting Paragraphs, Aplying Effects to Text, Applying Animation to Text. • |
| 24th Jan to 29th Jan | MS-Excel : Introduction to MS-Excel, Working with Toolbars, Formatting, Formulas, |
| 31st Jan to 5th Feb | Data Management, Graphs & Chart, Macros, and other additional Functions. • |
| 7th Feb to 12th Feb | MS-PowerPoint : Introduction, PowerPoint Slide Creation, Slide-show, |
| 14th Febl to 19th Feb | Adding Graphics, Formatting, Customizing and Printing. |
| 21th Feb to 26th Feb | Revision and Test |
| 26th Feb Onwards | Revision and Test |

**Name of Guest Lecturer: Ms. Shalu Rani**

**Class and Section: BCA 5th Sem**

**Subject: Visual Basic**

**Paper Code: BCA 304 (Sec-A)**

**Lesson Plan**: **Oct 2021 To Jan 2022**

| Week 1: **1 Oct. to 9 Oct. 2021** |
| --- |
| Introduction to VB: Visual & non-visual programming, Procedural, Object-oriented and event driven programming languages |
| Week 2: **11 Oct. to 16 Oct. 2021** |
| The VB environment: Menu bar, Toolbar, Project explorer, Toolbox, Properties window, Form designer, Form layout, Immediate window. |
| Week 3: **18 Oct. to 23 Oct. 2021** |
| Visual Development and Event Driven programming **Assignment and Test of Unit-1** |
| Week 4: **25 Oct. to 30 Oct. 2021** |
| Basics of Programming: Variables: Declaring variables, Types of variables, converting variables types, User-defined data types, Forcing variable declaration, Scope & lifetime of variables. |
| Week 5: **1 Nov. to 6 Nov. 2021** |
| **Diwali Holidays** |
| **Week 6: 8 Nov. to 13 Nov.2021** |
| Constants: Named & intrinsic. Operators: Arithmetic, Relational & Logical operators |
| Week 7: **15 Nov. to 20 Nov.2021** |
| I/O in VB: Various controls for I/O in VB, Message box, Input Box, Print statement **Assignment and test of Unit -2** |
| Week 8: **22 Nov. to 27 Nov.2021** |
| Programming with VB: Decisions and conditions: If statement, If-then-else, Select-case. Looping statements: Do-loops, For-next, While-wend, Exit statement. Nested control structures. |
| Week 9: **29 Nov. to 4 Dec. 2021** |
| Arrays: Declaring and using arrays, one-dimensional and multi-dimensional arrays, Static & dynamic arrays, Arrays of array |
| Week 10: **6 Dec. to 11 Dec. 2021** |
| Collections: Adding, Removing, Counting, returning items in a collection, Processing a collection **Assignment and Test of Unit-3** |
| Week 11: **13 Dec. to 18 Dec. 2021** |
| Programming with VB: Procedures: General & event procedures, Subroutines, Functions, calling procedures, Arguments- passing mechanisms, Optional arguments, Named arguments, |
| Week 12**: 20 Dec. to 25 Dec. 2021** |
| Functions returning custom data types, Functions returning arrays |
| Week 13**: 27 Dec. to 1 Jan 2022** |
| Working with forms and menus: Adding multiple forms in VB, Hiding & showing forms, Load & unload statements |
| Week 14**: 3 Jan. to 8 Jan. 2022** |
| creating menu, submenu, popup menus, Activate & deactivate events, Form-load event, menu designing in VB Simple programs in VB. |
| Week 15: **10 Jan. to 15 Jan. 2022** |
| **Test of Unit-4, Revision** |
| Week 16: **17 Jan. to 22 Jan. 2022** |
| **Presentation** |
| Week 17: **22 Jan. to 29 Jan. 2022** |
| **Test and Query discussion** |

**Name of Guest Lecturer: Ms. Shalu Rani**

**Class and Section: BCA 5th Sem**

**Subject: Management Information System**

**Paper Code: BCA 301 (Sec-B)**

**Lesson Plan**: **Oct 2021 to Jan 2022**

| Week 1: **1 Oct. to 9 Oct. 2021** |
| --- |
| Introduction to system and Basic System Concepts, Types of Systems, The Systems Approach |
| Week 2: **11 Oct. to 16 Oct. 2021** |
| Information System: Definition & Characteristics, Types of information |
| Week 3: **18 Oct. to 23 Oct. 2021** |
| Role of Information in Decision-Making |
| Week 4: **25 Oct. to 30 Oct. 2021** |
| Sub-Systems of an Information system: EDP and MIS management levels, EDP/MIS/DSS. |
| Week 5: **1 Nov. to 6 Nov. 2021** |
| **Diwali Holidays** |
| **Week 6: 8 Nov. to 13 Nov.2021** |
| **Assignment and Test of Unit-1**  An overview of Management Information System |
| Week 7: **15 Nov. to 20 Nov.2021** |
| Definition & Characteristics, Components of MIS, Frame Work for Understanding MIS |
| Week 8: **22 Nov. to 27 Nov.2021** |
| Information requirements & Levels of Management |
| Week 9: **29 Nov. to 4 Dec. 2021** |
| Simon's Model of decision-Making, Structured Vs Un-structured decisions, Formal vs. Informal systems. **Assignment and Test of Unit-2** |
| Week 10: **6 Dec. to 11 Dec. 2021** |
| Developing Information Systems, Analysis & Design of Information Systems, Implementation & Evaluation |
| Week 11: **13 Dec. to 18 Dec. 2021** |
| Pitfalls in MIS Development**,** Functional MIS, |
| Week 12**: 20 Dec. to 25 Dec. 2021** |
| **Assignment and Test of Unit-3**  A Study of Personnel, Financial and production MIS, Introduction to e-business systems |
| Week 13**: 27 Dec. to 1 Jan 2022** |
| ecommerce – technologies, applications, A Study of Personnel, Financial and production MIS, |
| Week 14**: 3 Jan. to 8 Jan. 2022** |
| Introduction to E-business systems, ecommerce – technologies, applications, |
| Week 15: **10 Jan. to 15 Jan. 2022** |
| Decision support systems |
| Week 16: **17 Jan. to 22 Jan. 2022** |
| support systems for planning, control and decision-making **Assignment and Test of Unit-4** |
| Week 17: **22 Jan. to 29 Jan. 2022** |
| **Test and Query discussion and Presentation** |

**Name of Guest Lecturer: Ms. Shalu Rani**

**Class and Section: BCA 5th Sem**

**Subject: Practical Software Lab**

**Paper Code: BCA 305**

Practical Syllabus will be met as per Schedule of Concerned theory paper i.e. based on Paper 304.

**Lesson Plan BCA 1st sem**

**MATHEMATICS**

**PAPER CODE- BCA 103**

**Extension Lecturer- ARCHANA CS Department, GPGCW, Rohtak.**

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| --- | --- |
| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | SETS:  Sets, Subsets, Equal Sets Universal Sets, Finite and Infinite Sets, Operation on Sets, |
| **11 Oct-16 Oct** | Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set |
| **18 Oct - 23 Oct** | Simple Applications. |
| **25 Oct -30 Oct** | Definition, Minors, Cofactors, Properties of Determinants, Applications of determinants in finding area of triangle, |
| **1 Nov-6 Nov** | Solving a system of linear equations.  Test and assignment |
| **8 Nov-13 Nov** | MATRICES:  Definition, Types of Matrices, Addition, |
| **15 Nov -20 Nov** | Subtraction, Scalar Multiplication and Multiplication of Matrices |
| **22 Nov – 27 Nov** | Adjoint , Inverse, solving system of linear equation Cramer’s Rule. |
| **29 Nov – 4 Dec** | DIFFERENTIATION:  Derivative of a function, Derivatives of Sum, Differences, Product & Quotient of functions, |
| **6 Dec – 11 Dec** | Derivatives of polynomial, trigonometric, exponential, logarithmic, |
| **13 Dec – 18 Dec** | inverse trigonometric and implicit functions, Logarithmic Differentiation, Chain Rule and  differentiation by substitution.  Test and assignment |
| **20 Dec – 25 Dec** | INTEGRATION:  Indefinite Integrals, Methods of Integration by Substitution, |
| **27 Dec – 1 Jan** | By Parts,  Partial Fractions, Integration of Algebraic and Transcendental Functions, Reduction Formulae for simple and Trigonometric Functions, Definite Integral as Limit of Sum |
| **3 Jan – 8 Jan** | Fundamental Theorem of Integral Calculus, Evaluation of definite integrals by substitution using properties of definite integral  Test and assignment |
| **10 Jan – 15 Jan** | Properties of Relations, Equivalence Relation,  Partial Order Relation Function: Domain and Range, Onto, Into and One to One Functions |
| **17 Jan – 22 Jan** | Composite and Inverse Functions.  LIMITS & CONTINUITY:  Limit at a Point, Properties of Limit, Computation of Limits of Various Types of Functions, Continuity of a function at a Point |
| **24 Jan – 31 Jan** | Continuity Over an Interval,Sum, product and quotient of continuous functions, Intermediate Value Theorem, Type of Discontinuities  Test |

**Lesson Plan BCom. 1st Sem**

Basics of Computer-I

**PAPER CODE-** 1.06  
**Extension Lecturer- ARCHANA CS Department,GPGCW, Rohtak.**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Introduction to Computers: Definition of Computer; Components of Computer; Characteristics of Computers |
| **11 Oct-16 Oct** | History evolution of Computers; Generation of computers |
| **18 Oct - 23 Oct** | Classification of Computers- According to Purpose, According to Technology , According to Size and Storage Capacity |
| **25 Oct -30 Oct** | Human being VS Computer; Difference between Computer and Calculator. |
| **1 Nov-6 Nov** | Input Devices: Mouse, Keyboard  Test and assignment |
| **8 Nov-13 Nov** | Light pen, Track Ball, Joystick, MICR, Optical Mark reader and Optical Character Reader Scanners |
| **15 Nov -20 Nov** | Voice system, Web Camera. Output Devices: Hard Copy Output Devices |
| **22 Nov – 27 Nov** | Line Printers, Character Printers, Chain Printers, Dot-matrix Printers. |
| **29 Nov – 4 Dec** | Daisy Wheel Printer, Laser Printers, Ink Jet Printers; Plotters |
| **6 Dec – 11 Dec** | Soft Copy device –Monitor, Sound Cards and speakers  Test |
| **13 Dec – 18 Dec** | MS- Word: Fundamentals of MS-Word, Features of MS-Word |
| **20 Dec – 25 Dec** | Menus, Formatting and Standard Toolbars, Ruler, Scroll Bar, Creating, Editing |
| **27 Dec – 1 Jan** | Saving, export and import files, inserting and copying the files, Working with frames, Paragraph formatting |
| **3 Jan – 8 Jan** | Columns, Pictures, Tables, Macros and Mail Merge.  Test and assignment |
| **10 Jan – 15 Jan** | Memory and Mass Storage Devices: Characteristics of Memory Systems; Memory Hierarchy |
| **17 Jan – 22 Jan** | Types of Primary Memory; RAM and ROM; Secondary and Back-up; Magnetic Disks |
| **24 Jan – 31 Jan** | Characteristics and classification of Magnetic Disks; Optical Disks; Magnetic Taps.  Test |

**Lesson Plans**

**BCA 3rd Year**

**COMPUTER GRAPHICS**

**PAPER CODE- BCA 302**

**Extension Lecturer- JyotiCS Department, GPGCW, Rohtak.**

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| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Introduction to computer graphics, Basics of Graphics systems, Application areas of Computer Graphics, overview of graphics systems, |
| **11 Oct-16 Oct** | video-display devices |
| **18 Oct -23 Oct** | raster-scan systems, random scan systems, graphics monitors and workstations and input devices |
| **25 Oct -30 Oct** | Output Primitives: Points and lines, line drawing algorithm: DDA, Bresenham’s line Drawing Algorithm |
| **1 Nov-6 Nov** | **Diwali Vacations** |
| **8 Nov-13 Nov** | Mid Point Circle Drawing Algorithm and Ellipse drawing algorithm. |
| **15 Nov -20 Nov** | Filled area primitives: Scan line polygon fill algorithm, boundary fill, flood fill algorithms. |
| **22 Nov – 27 Nov** | 2-D Geometrical Transforms: Translation, scaling, rotation, reflection and shear transformations, matrix representations |
| **29 Nov – 4 Dec** | Homogeneous Coordinates, Composite Transformation,Transformations between coordinate systems |
| **6 Dec – 11 Dec** | 3-D Geometric Transformations: Translation, rotation, scaling, reflection and shear transformations,composite transformations |
| **13 Dec – 18 Dec** | 2-D Viewing: The viewing pipeline, viewing coordinate reference frame, window to view-port coordinate transformation, viewing functions |
| **20 Dec – 25 Dec** | Cohen-Sutherland and Cyrus-beck line clipping algorithms, |
| **27 Dec – 1 Jan** | Sutherland –Hodgeman polygon clipping algorithm. |
| **3 Jan – 8 Jan** | 3-D Object Representation: Polygon surfaces, quadric surfaces, Spline representation, |
| **10 Jan – 15 Jan** | Hermite curve, Bezier curve |
| **17 Jan – 22 Jan** | B-Spline curves, Bezier and B-Spline surfaces. |
| **24 Jan – 31 Jan** | Basicillumination models, polygon-rendering methods. |

**B.Sc. 3rd Sem**

**Object-Oriented Design and C++**

**PAPER CODE- 3.2**

**Extension Lecturer- Dr.Jyoti CS Department, GPGCW, Rohtak.**

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| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Introduction to Programming C++: Object-Oriented Features of C++, data types in C++ |
| **11 Oct-16 Oct** | variables, operators, flow control, recursion, array, Pointers and their manipulation, strings, structures |
| **18 Oct - 23 Oct** | Class and Objects, Data Hiding & Encapsulation, Data members and Member functions |
| **25 Oct -30 Oct** | Inline Functions, Static Data Members and Member Functions, Friend Functions, |
| **1 Nov-6 Nov** | **Diwali Vacations** |
| **8 Nov-13 Nov** | Pre-processor Directives, Namespace, Comparing C with C++. |
| **15 Nov -20 Nov** | Constructors & Destructors: Roles and types of Constructors, Constructor Overloading, Roles of Destructors, |
| **22 Nov – 27 Nov** | Dynamic Memory Allocation: Pointers and their Manipulation, new and delete Operators ‘this’ Pointer |
| **29 Nov – 4 Dec** | Console I/O: Formatted and Unformatted I/O, Manipulators. |
| **6 Dec – 11 Dec** | Compile-Time Polymorphism: Unary and Binary Operators overloading through Member Functions and Friend Functions |
| **13 Dec – 18 Dec** | Function Overloading, virtual functions, abstract class, virtual class |
| **20 Dec – 25 Dec** | Inheritance: Types of Derivations, Forms of Inheritance, Roles of Constructors and Destructors in Inheritance. |
| **27 Dec – 1 Jan** | Object oriented concepts: Class, Object, Methods, Message Passing, Abstraction, Inheritance |
| **3 Jan – 8 Jan** | Polymorphism, Generosity, Overriding, Abstract Class & methods |
| **10 Jan – 15 Jan** | Generalization, Aggregation, Associations. |
| **17 Jan – 22 Jan** | Object modelling techniques: Introduction to object model, |
| **24 Jan – 31 Jan** | Dynamic model, Functional Model. Strengths & Weakness of all models. |

**Lesson Plan**

**Class – BCA1stSem**

**Faculty – Ms. Vandna**

**Subject –Computer & Programming Fundamental**

**Paper Code- BCA101**

**Lesson Plan Duration - From October2021 to January 2022**

|  |  |
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| **Time Period** | **Topics** |
| **1Oct. to 9 Oct. 2021** | Computer Fundamentals: Generations of Computers, Definition, Block Diagram along withits components, characteristics & classification of computers, Limitations of Computers, Human-Being VS Computer, Applications of computers in various fields. |
| **11 Oct. to 16 Oct. 2021** | Memory: Concept of primary & secondary memory, RAM, ROM, types of ROM |
| **18 Oct. to 23 Oct. 2021** | Cache Memory, flash memory, Secondary storage devices: Sequential & direct access devices |
| **25 Oct. to 30 Oct. 2021** | Magnetic tape, magnetic disk, optical disks i.e. CD, DVD, virtual memory.  **Assignment of Unit-1** |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8Nov. to 13 Nov.2021** | Computer hardware & software: I/O devices |
| **15Nov. to 20 Nov.2021** | definition of software, relationship between hardware and software, types of software. |
| **22Nov. to 27 Nov.2021** | Overview of operating system: Definition, functions of operating system |
| **29 Nov. to 4 Dec. 2021** | Concept of multiprogramming, multitasking, multithreading, multiprocessing, time-sharing, real time, |
| **6 Dec. to 11 Dec. 2021** | Computer Virus: Definition, types of viruses, Characteristics of viruses, anti-virus software.  **Assignment and Test of Unit -2** |
| **13 Dec. to 18 Dec. 2021** | Computer Languages: Analogy with natural language, machine language, assembly language, high-level languages, forth generation languages, compiler, interpreter, assembler, Linker, |
| **20 Dec. to 25Dec. 2021** | Loader , characteristics of a good programming language, Planning the Computer Program: Concept of problem solving, Problem definition, Program design, Debugging, Types of errors,documentation |
| **27 Dec. to 31Dec. 2021** | Structured programming concepts, Programming methodologies viz. top-down and bottomup programming, Advantages and disadvantages of Structured programming.  **Assignment and Test of Unit-3** |
| **1 Jan. to 8 Jan. 2022** | Overview of Networking: An introduction to computer networking, Network types (LAN, WAN, MAN), Network topologies, Modes of data transmission, Forms of data transmission, Transmission channels(media), Introduction to internet and its uses, |
| **10 Jan. to 15 Jan. 2022** | Applications of internet, Hardware and Software requirements for internet, Intranet, Applications of internet |
| **17 Jan. to 22 Jan. 2022** | Presentation |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

**Class – B.Sc.1stSem**

**Faculty – Ms. Vandna**

**Subject –Computer Fundamental and MS-Office**

**Paper Code- 1.1**

**Lesson Plan Duration - From October 2021 to January 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **4Oct. to 6 Oct. 2021** | Introduction : Historical evolution of computers, Classification of computers, Block Diagram along its components and characteristics, Usefulness of Computers. Human being Vs computerComputer as a tool, Applications of computer |
| **11 Oct. to 13Oct. 2021** | Number Systems: Definition of Number system, necessity of binary number system, binary, decima l, octal and hexadecimal number system, interconversion of numbers, Representation of integers, fixed and floating points |
| **18 Oct. to 20Oct. 2021** | BCD codes, Error detecting and correcting codes, character Representation-ASCII,Binary Arithmetic  **Assignment and Test of Unit-1** |
| **25 Oct. to 27 Oct. 2021** | Input/Output Devices: Keyboards, mouse, joysticks, trackballs, digitizer, voice-recognition, optical-recognition,  scanners, terminals, point-of-sale terminals, machine-vision systems. Hard-copy devices: Impact printers |
| **1 Nov. to 3Nov. 2021** | **Diwali Holidays** |
| **8Nov. to 10 Nov.2021** | DMPsdevices: Impact printers - DMPs, Daisy-wheel printers, Line-printers. Non-impact printers - Inkjet, |
| **15Nov. to 17 Nov.2021** | Memory & Mass Storage Devices: Characteristics of memory systems, types of memory, RAM, ROM, magnetic disks - floppy disk, hard-disk; |
| **22Nov. to 24 Nov.2021** | optical disks - CD, CD-I, CD-ROM; Magnetic tapes; Concepts of Virtual and Cache memory  **Assignment and Test of Unit -2** |
| **29 Nov. to 1 Dec. 2021** | Software Concepts: Introduction, types of software - System & Application software; Language translators - Compiler, Interpreter, Assembler |
| **6 Dec. to 8 Dec. 2021** | Operating system - Characteristics, bootstrapping, types of operating, operating system as a resource manager System |
| **13 Dec. to 15 Dec. 2021** | BIOS; System utilities - Editor, Loader, Linker, File Manager. Concept of GUI, GUI standards. Introduction to Algorithm & Flowcharts, Advantages &Disadvantages.  **Assignment and Test of Unit-3** |
| **20 Dec. to 22Dec. 2021** | MS-OFFICE:MS-Word :- Creating a document, font operation, bullet and numbering, find & replace, hyper linking, mathematical operation, Create table and flow chart, Macro, Mail merge, Correcting grammar, protect files, difference between doc and docx |
| **27 Dec. to 29Dec. 2021** | MS-PowerPoint :- Creating single and multiple slide, Animation, manual and automatic slide show, hyper linking, DFD, shape and style. |
| **3 Jan. to 5 Jan. 2022** | MS-Excel:- Create sheet and rename sheet, table and operation, cells operation, hyper linking, Function(mathematic, logical), sort and data tools, protection(sheet, workbook |
| **10 Jan. to 12 Jan. 2022** | **Test of Unit-4, Revision** |
| **17 Jan. to 19 Jan. 2022** | **Presentation** |
| **24Jan. to 31 Jan. 2022** | **Test and Query discussion** |

**Lesson Plan**

**Class – APGDCA 1st Sem**

**Faculty – Ms. Sonia**

**Subject -** **COMPUTER NETWORKING & MULTIMEDIA**

**Paper Code- A PGDCA - 102**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

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| --- | --- |
| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | Introduction to Computer Network, Why Computer Network ? Key Issues for Computer Network, Types of Network |
| 15th Nov to 20th Nov | LAN, WAN and MAN; Criteria for Classification of Computer Network, LANs : Hardware requirements for LAN, Transmission Channel for LAN |
| 22th Nov to 27th Nov | Properties of Relations, Equivalence Relation, Partial Order Relation Network Interface Unit, Servers & Workstations, LAN Software. Introduction to Ethernet, |
| 29th Nov to 4th Dec | Token Ring : Basics and Working Cables, ring speed. WAN : Transmission Channel for LAN, hardware requirements : Bridges |
| 6th Dec to 11th Dec | , Routers, Gateways. Private Networks, Public Networks : ISDN, PSTN, PSDN, Value Added Networks.  **Assignment of unit 1** |
| 6th Dec to 11th Dec | Connecting PCs : Simple switches, Printer sharing buffers, Zero-slot LANs, Media sharing LANs, **Test of Unit 1** |
| 13th Dec to 18th Dec | Printer Servers, Client and Servers, Interface Cards, Media Access Control, Operating System features, OSI Model, TCP/IP Model, Data encoding & Communication Techniques |
| 20th Dec to 24th Dec | Multiplexing and Communication Hardware Network topology, Network Protocols, Applications of Computer Network. Distributed data rocessing, Teletext and Videotext Networks |
| 27th Dec to 1th Jan 2022 | Communication Channels : Wire cables (Telegraph, telephone, twisted-pair, co-axial), Microwave, Fibre-optics, Communication satellites; Channel sharing, data-transmission |
| 3rd Jan to 8th Jan | **Assignment and test of unit 2.** |
| 10th Jan to 15th Jan | Introduction to multimedia technology - Computers, Communication and Entertainment; Framework for multimedia systems; M/M devices, |
| 17th Jan to 22th Jan | presentation devices and the user interface; M/M presentation and authoring; Digital representation of sound and transmission |
| 24th Jan to 29th Jan | brief survey of speech recognition and generation; digital video and image compression; JPEG image compression standards |
| 31st Jan to 5th Feb | MPEG motion video compression; DVI technology; time-based media representation and delivery. Unit **Test of Unit III** |
| 7th Feb to 12th Feb | Audio Compression and Decompression, Audio Synthesis, MIDI, Speech Recognition & Synthesis, Video Capturing, Compression & Decompression, Real-time 3D, LANs and Multimedia. |
| 14th Febl to 19th Feb | Applications of M/M; Intelligent M/M system, Desktop Virtual Reality (VR), VR operating System, Virtual environment displays and orientation tracking |
| 21th Feb to 26th Feb | visually coupled system requirements; intelligent VR software systems. Applications of environments in various fields viz. Entertainment, manufacturing, business, education, etc. Test on Unit - 4 |
| 26th Feb Onwards | **Revision** |

**Lesson Plan**

**Class – M.sc 3rd Sem**

**Faculty – Ms. Sonia**

**Subject –**OPERATING SYSTEM AND UNIX

**Paper Code-** 17MCS23C1

**Lesson Plan Duration - From October 2021 to January 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **1Oct. to 9 Oct. 2021** | Operating systems overview: Operating systems as an extended machine & resource manager, Operating systems classification; |
| **11 Oct. to 16 Oct. 2021** | Operating systems and system calls; Operating systems architecture. |
| **18 Oct. to 23 Oct. 2021** | Process Management functions: Process model, hierarchies, |
| **25 Oct. to 30 Oct. 2021** | Implementation; process states and transitions;.  **Assignment of Unit-1** |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8Nov. to 13 Nov.2021** | Memory Management and Virtual Memory : Logical versus Physical Address Space |
| **15Nov. to 20 Nov.2021** | Swapping, Contiguous Allocation, Paging, Segmentation, |
| **22Nov. to 27 Nov.2021** | Segmentation with Paging, Demand Paging, Performance of Demanding Paging, |
| **29 Nov. to 4 Dec. 2021** | Page Replacement, Page Replacement Algorithm |
| **6 Dec. to 11 Dec. 2021** | Allocation of Frames, Thrashing  **Assignment of Unit 2** |
| **13 Dec. to 18 Dec. 2021** | Device Management functions: I/O devices and controllers, interrupt handlers, |
| **20 Dec. to 25Dec. 2021** | Types of I/O Software: Device independent I/O software,User-space I/O software, Terminal I/O software. Disk scheduling |
| **27 Dec. to 31Dec. 2021** | File management functions: file naming, structure, types, access mechanisms, attributes and operations; directory structures and directory operations; file space allocations; file sharing, file locking; symbolic links; file protection and security: distributed file systems.  **Assignment and Test of Unit-3** |
| **1 Jan. to 8 Jan. 2022** | Concurrent programming: sequential and concurrent process; precedence graph, Bernsterins condition; |
| **10 Jan. to 15 Jan. 2022** | Time dependency and critical code section, mutual exclusion problem; classical process coordination problems; |
| **17 Jan. to 22 Jan. 2022** | deadlock handling, inter-process communication Unix Operating System: Overview of UNIX OS in general and implementation of all above functions in Unix Operating System. |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

**Lesson Plan**

**Class – BCA 1stSem**

**Faculty – Ms. Neetu**

**Subject –PC Software**

**Paper Code- BCA102**

**Lesson Plan Duration - From October 2021 to January 2022**

|  |  |
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| **Time Period** | **Topics** |
| **1Oct. to 9 Oct. 2021** | Operating system-Definition & functions, basics of Windows. Basic components of windows, icons, types of icons |
| **11 Oct. to 16 Oct. 2021** | taskbar, activating windows, using desktop, title bar, running applications, exploring computer, managing files and folders, copying and moving files and folders |
| **18 Oct. to 23 Oct. 2021** | Control panel – display properties, adding and removing software and hardware |
| **25 Oct. to 30 Oct. 2021** | Control panel – setting date and time, screensaver and appearance. Using windows accessories.  **Assignment of Unit-1** |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8Nov. to 13 Nov.2021** | Introduction to word processing interface, Toolbars, Menus, Creating & Editing Document, Formatting Document |
| **15Nov. to 20 Nov.2021** | Finding and replacing text, Format painter, Header and footer, Drop cap, Auto-text, Autocorrect |
| **22Nov. to 27 Nov.2021** | Spelling and Grammar Tool, Document Dictionary, Page Formatting |
| **29 Nov. to 4 Dec. 2021** | Bookmark, Previewing and printing document, Advance Features of MS-Word-Mail Merge |
| **6 Dec. to 11 Dec. 2021** | Macros, Tables, File Management, Printing, Styles, linking and embedding object, Template  **Assignment of Unit 2** |
| **13 Dec. to 18 Dec. 2021** | Introduction to MS-Excel, Cell, cell address, Creating & Editing Worksheet, Formatting and Essential Operations |
| **20 Dec. to 25Dec. 2021** | Moving and copying data in excel, Header and footer, Formulas and Functions, Charts, Database Management using Excel-Sorting, Filtering, Validation, What if analysis with Goal Seek, Conditional formatting. |
| **27 Dec. to 31Dec. 2021** | Cell referencing, Page setup, Macros, Advance features of MS-Excel-Pivot table & Pivot Chart, Linking and Consolidation.  **Assignment and Test of Unit-3** |
| **1 Jan. to 8 Jan. 2022** | Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts |
| **10 Jan. to 15 Jan. 2022** | Word Art, Layering art Objects, Animations and Sounds, Inserting Animated Pictures |
| **17 Jan. to 22 Jan. 2022** | Inserting Recorded Sound Effect or In-Built Sound Effect.Presentation |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

**Class – BCA 1stSem**

**Faculty – Ms. Neetu**

**Subject –Logical Organization of Computer- I**

**Paper Code- BCA 104**

**Lesson Plan Duration - From October 2021 to January 2022**

|  |  |
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| **Time Period** | **Topics** |
| **1Oct. to 9 Oct. 2021** | Information Representation: Number Systems, Binary Arithmetic |
| **11 Oct. to 16 Oct. 2021** | Fixed-point and Floatingpoint representation of numbers, BCD Codes |
| **18 Oct. to 23 Oct. 2021** | Error detecting and correcting codes, Character Representation – ASCII, EBCDIC, Unicode  **Assignment and Test of Unit-1** |
| **25 Oct. to 30 Oct. 2021** | Boolean Algebra, Boolean Theorems, Boolean Functions and Truth Tables |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8Nov. to 13 Nov.2021** | Canonical and Standard forms of Boolean functions, |
| **15Nov. to 20 Nov.2021** | Simplification of Boolean Functions – Venn Diagram, Karnaugh Map  **Assignment and test of Unit -2** |
| **22Nov. to 27 Nov.2021** | Introduction to digital signals, Basic Gates – AND, OR, NOT, Universal Gatesand their implementation – NAND, NOR, Other Gates – XOR, XNOR etc. |
| **29 Nov. to 4 Dec. 2021** | NAND, NOR, AND-OR-INVERT and OR-AND-INVERT implementations of digital circuits |
| **6 Dec. to 11 Dec. 2021** | Combinational Logic – Characteristics, Design Procedures, analysis procedures, Multilevel NAND and NOR circuits.  **Assignment and Test of Unit-3** |
| **13 Dec. to 18 Dec. 2021** | Combinational Circuits: Half-Adder, Full-Adder, Half-Subtractor |
| **20 Dec. to 25Dec. 2021** | Full-Subtractor, Parallel binary adder/subtractor, Encoders, Decoders, |
| **27 Dec. to 31Dec. 2021** | Multiplexers, Demultiplexers, Comparators, |
| **1 Jan. to 8 Jan. 2022** | Code Converters, BCD to Seven-Segment Decoder |
| **10 Jan. to 15 Jan. 2022** | **Test of Unit-4, Revision** |
| **17 Jan. to 22 Jan. 2022** | **Presentation** |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

**lesson Plan BCA 1stSem**

**Academic Session- 2021-2022 Subject –Logical Organization of Computer-I**

**PAPER CODE-BCA-104 Extension Lecturer** – TEENA SUNEJA

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| **Week** | **Topics Covered** |
| **Week 1, 1 Oct** | Information Representation: Number Systems |
| **Week 2, 4 Oct to 9 Oct** | Number System contd.. |
| **Week 3, 11 Oct to 16 Oct** | Binary Arithmetic and its numericals |
| **Week 4, 18 Oct to 23 Oct** | Fixed-point and Floating point representation of numbers |
| **Week 5, 25 Oct to 30 Oct** | BCD Codes, Error detecting and correcting codes |
| **Week 6, 8 Nov to 13 Nov** | Character Representation – ASCII, EBCDIC, Unicode |
| **Week 7, 15 Nov to 20 Nov** | Binary Logic: Boolean Algebra, Boolean Theorems |
| **Week 8, 22 Nov to 27 Nov** | Boolean Functions and Truth Tables |
| **Week 9, 29 Nov to 4 Dec** | Canonical and Standard forms of Boolean functions |
| **Week 10, 6 Dec to 11 Dec** | Simplification of Boolean Functions –  Venn Diagram, Karnaugh Maps. |
| **Week 11, 13 Dec to 18 Dec** | Digital Logic: Introduction to digital signals, Basic Gates – AND, OR, NOT, Universal  Gates and their implementation – NAND, NOR |
| **Week 12, 20 Dec to 25 Dec** | Other Gates – XOR, XNOR etc. NAND,  NOR, AND-OR-INVERT and OR-AND-INVERT implementations of digital circuits |
| **Week 13, 27 Dec to 1 Jan** | Combinational Logic – Characteristics |
| **Week 14, 3 Jan to 8 Jan** | Combinational Logic – Design Procedures, analysis procedures, Multilevel  NAND and NOR circuits. |
| **Week 15, 10 Jan to 15 Jan** | Combinational Circuits: Half-Adder, Full-Adder, Half-Subtractor, Full-Subtractor, Parallel binary adder/subtractor, |
| **Week 16, 17 Jan to 22 Jan** | Encoders, Decoders, Multiplexers, Demultiplexers |
| **Week 17, 24 Jan to 29 Jan** | Comparators,  Code Converters, BCD to Seven-Segment Decoder. Revision and Test |

**lesson Plan BCA 1stSem**

**Academic Session- 2021-2022 Subject –PC SOFTWARE**

**PAPER CODE-BCA-102 Extension Lecturer** – TEENA SUNEJA

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| **Week** | **Topics Covered** |
| **Week 1, 1 Oct** | Operating system definition and its functions, basics of windows |
| **Week 2, 4 Oct to 9 Oct** | Components,icons,types,taskbar,activating of windows |
| **Week 3, 11 Oct to 16 Oct** | Menu bar ,title bar, running applications,copy ,paste,managing,moving of files n folders |
| **Week 4, 18 Oct to 23 Oct** | Control panel – display properties, adding and removing software and hardware, setting date and time, screensaver and appearance. Using windows accessories. |
| **Week 5, 25 Oct to 30 Oct** | Documentation Using MS-Word - Introduction to word processing interface, Toolbars, Menus, Creating & Editing Document, Formatting Document, Finding and replacing text, Format painter, Header and footer, |
| **Week 6, 8 Nov to 13 Nov** | Drop cap, Auto-text, Autocorrect, Spelling and Grammar Tool, Document Dictionary, Page Formatting, Bookmark, |
| **Week 7, 15 Nov to 20 Nov** | Previewing and printing document, Advance Features of MS-Word-Mail Merge, Macros, Tables, |
| **Week 8, 22 Nov to 27 Nov** | File Management, Printing, Styles, linking and embedding object, Template. |
| **Week 9, 29 Nov to 4 Dec** | Electronic Spread Sheet using MS-Excel - Introduction to MS-Excel, Cell, cell address, Creating & Editing Worksheet, Formatting and Essential Operations, |
| **Week 10, 6 Dec to 11 Dec** | Moving and copying data in excel, Header and footer, Formulas and Functions, Charts, |
| **Week 11, 13 Dec to 18 Dec** | Cell referencing, Page setup, Macros, Advance features of MS-Excel-Pivot table & Pivot Chart, Linking and Consolidation, Database Management using Excel-Sorting, Filtering, Validation, |
| **Week 12, 20 Dec to 25 Dec** | Goal Seek, Conditional formatting.revision snd tests |
| **Week 13, 27 Dec to 1 Jan** | Presentation using MS-PowerPoint: Presentations, Creating, Manipulating & Enhancing Slides, |
| **Week 14, 3 Jan to 8 Jan** | Organizational Charts, Excel Charts, Word Art, Layering art Objects, Animations and Sounds, |
| **Week 15, 10 Jan to 15 Jan** | Inserting Animated Pictures or Accessing through Object, I |
| **Week 16, 17 Jan to 22 Jan** | Inserting Recorded Sound Effect or In-Built Sound Effect |
| **Week 17, 24 Jan to 29 Jan** | Revision n test |

**Lesson Plan**

**Class – BCA5thSem**

**Faculty – Ms. Navita**

**Subject –Computer Graphics**

**Paper Code- BCA302**

**Lesson Plan Duration - From October2021 to January 2022**

|  |  |
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| **Time Period** | **Topics** |
| **1Oct. to 9 Oct. 2021** | Introduction to computer graphics, Basics of Graphics systems, Application areas of Computer Graphics, overview of graphics systems, |
| **11 Oct. to 16 Oct. 2021** | video-display devices, and raster-scan systems, random-scan systems, graphics monitors and workstations, Input devices |
| **18 Oct. to 23 Oct. 2021** | Points and lines, line drawing algorithms, mid-point circle and ellipse algorithms. |
| **25 Oct. to 30 Oct. 2021** | Filled area primitives: Scan line polygon fill algorithm, Boundary and flood fill algorithm.....**Assignment of Unit-1** |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8 Nov. to 13 Nov.2021** | 2-D Geometrical Transforms: Translation, scaling, rotation, reflection and shear transformations, |
| **15 Nov. to 20 Nov.2021** | matrix representations and homogeneous coordinates, composite transforms |
| **22 Nov. to 27 Nov.2021** | 2-D Viewing: The viewing pipeline, viewing coordinate reference frame, |
| **29 Nov. to 4 Dec. 2021** | window to viewport coordinate transformation, Cohen-Sutherland and Cyrus-beck line clipping algorithms |
| **6 Dec. to 11 Dec. 2021** | Sutherland –Hodge man polygon clipping algorithm.  **Assignment and test of Unit -2** |
| **13 Dec. to 18 Dec. 2021** | 3-D Object Representation: Polygon surfaces, quadric surfaces, spline representation, Hermite curve |
| **20 Dec. to 25Dec. 2021** | Bezier curve and B-Spline curves, Bezier and B-Spline surfaces. Basic illumination models, polygon-rendering methods **Assignment and Test of Unit-3** |
| **27 Dec. to 31Dec. 2021** | 3-D Geometric Transformations: Translation, rotation, scaling, |
| **1 Jan. to 8 Jan. 2022** | reflection and shear transformations, composite transformations |
| **10 Jan. to 15 Jan. 2022** | 3-D Viewing: Viewing pipeline, viewing coordinates |
| **17 Jan. to 22 Jan. 2022** | Presentation |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

**Lesson Plan**

**Class – BCA 5thSem**

**Faculty – Ms. Navita**

**Subject –Visual Basic**

**Paper Code- BCA304**

**Lesson Plan Duration - From October 2021 to January 2022**

|  |  |
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| **Time Period** | **Topics** |
| **1 Oct. to 9 Oct. 2021** | Introduction to VB: Visual & non-visual programming, Procedural, Object-oriented and event driven programming languages, |
| **11 Oct. to 16 Oct. 2021** | The VB environment: Menu bar, Toolbar, Project explorer, Toolbox, Properties window, Form designer, Form layout, Immediate window. |
| **18 Oct. to 23 Oct. 2021** | Visual Development and Event Driven programming **Assignment and Test of Unit-1** |
| **25 Oct. to 30 Oct. 2021** | Basics of Programming: Variables: Declaring variables, Types of variables, converting variables types, User-defined data types, Forcing variable declaration, Scope & lifetime of variables. |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8 Nov. to 13 Nov.2021** | Constants: Named & intrinsic. Operators: Arithmetic, Relational & Logical operators. |
| **15 Nov. to 20 Nov.2021** | I/O in VB: Various controls for I/O in VB, Message box, Input Box, Print statement **Assignment and test of Unit -2** |
| **22 Nov. to 27 Nov.2021** | Programming with VB: Decisions and conditions: If statement, If-then-else, Select-case. Looping statements: Do-loops, For-next, While-wend, Exit statement. Nested control structures. |
| **29 Nov. to 4 Dec. 2021** | Arrays: Declaring and using arrays, one-dimensional and multi-dimensional arrays, Static & dynamic arrays, Arrays of array |
| **6 Dec. to 11 Dec. 2021** | Collections: Adding, Removing, Counting, returning items in a collection, Processing a collection **Assignment and Test of Unit-3** |
| **13 Dec. to 18 Dec. 2021** | Programming with VB: Procedures: General & event procedures, Subroutines, Functions, calling procedures, Arguments- passing mechanisms, Optional arguments, Named arguments, |
| **20 Dec. to 25Dec. 2021** | Functions returning custom data types, Functions returning arrays |
| **27 Dec. to 31Dec. 2021** | Working with forms and menus: Adding multiple forms in VB, Hiding & showing forms, Load & unload statements |
| **1 Jan. to 8 Jan. 2022** | creating menu, submenu, popup menus, Activate & deactivate events, Form-load event, menu designing in VB Simple programs in VB. |
| **10 Jan. to 15 Jan. 2022** | **Test of Unit-4, Revision** |
| **17 Jan. to 22 Jan. 2022** | **Presentation** |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

**Lesson Plan BCA 3rd Year**

**MANAGEMENT INFIRMATION TECHNOLOGY**

**PAPER CODE- BCA 301**

**Extension Lecturer- MONIKA CHAWLA CS Department, GPGCW, Rohtak.**

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| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Introduction to system and Basic System Concepts, Types of Systems, The Systems Approach |
| **11 Oct-16 Oct** | Information System: Definition & Characteristics, Types of information |
| **18 Oct - 23 Oct** | Role of Information in Decision-Making |
| **25 Oct -30 Oct** | Sub-Systems of an Information system: EDP and MIS management levels, EDP/MIS/DSS. |
| **1 Nov-6 Nov** | **Diwali Vacations** |
| **8 Nov-13 Nov** | An overview of Management Information System |
| **15 Nov -20 Nov** | Definition & Characteristics, Components of MIS, Frame Work for Understanding MIS |
| **22 Nov – 27 Nov** | Information requirements & Levels of Management |
| **29 Nov – 4 Dec** | Simon's Model of decision-Making, Structured Vs Un-structured decisions, Formal vs. Informal systems. |
| **6 Dec – 11 Dec** | Developing Information Systems, Analysis & Design of Information Systems, Implementation & Evaluation |
| **13 Dec – 18 Dec** | Pitfalls in MIS Development **,** Functional MIS |
| **20 Dec – 25 Dec** | A Study of Personnel, Financial and production MIS, Introduction to ebusiness systems |
| **27 Dec – 1 Jan** | ecommerce – technologies, applications, A Study of Personnel, Financial and production MIS, |
| **3 Jan – 8 Jan** | Introduction to ebusiness systems , ecommerce – technologies, applications, |
| **10 Jan – 15 Jan** | Decision support systems |
| **17 Jan – 22 Jan** | support systems for planning, control and decision-making |
| **24 Jan – 31 Jan** | **Revisions of All Topics** |

**Lesson Plan BCA 2nd Year**

**MANAGEMENT INFIRMATION TECHNOLOGY**

**PAPER CODE- BCA 201**

**Extension Lecturer- MONIKA CHAWLA CS Department, GPGCW, Rohtak.**

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| --- | --- |
| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Fundamentals of Operating system: Introduction to Operating System, its need and operating System services, Early systems, |
| **11 Oct-16 Oct** | Structures - Simple Batch, Multi programmed, |
| **18 Oct - 23 Oct** | Timeshared, Personal Computer, Parallel, Distributed Systems, Real-Time Systems. |
| **25 Oct -30 Oct** | Process Management: Process concept, Operation on processes, |
| **1 Nov-6 Nov** | Cooperating Processes, Threads, and Inter-process Communication |
| **8 Nov-13 Nov** | CPU Scheduling: Basic concepts, |
| **15 Nov -20 Nov** | Scheduling criteria, Scheduling algorithms- FCFS |
| **22 Nov – 27 Nov** | Scheduling algorithms -FCFS, SJF, |
| **29 Nov – 4 Dec** | Round Robin & Queue Algorithms. |
| **6 Dec – 11 Dec** | Deadlocks: Deadlock characterization, |
| **13 Dec – 18 Dec** | Methods for handling deadlocks, Banker’sAlgorithm. |
| **20 Dec – 25 Dec** | Memory Management: Logical versus Physical address space, Swapping, |
| **27 Dec – 1 Jan** | Contiguous allocation, Paging, Segmentation. |
| **3 Jan – 8 Jan** | Virtual Memory: Demand paging, Performance of demand paging, |
| **10 Jan – 15 Jan** | Page replacement, Page replacement algorithms, Thrashing. |
| **17 Jan – 22 Jan** | File management: File system Structure, Allocation methods: Contiguous allocation, Linked allocation, Indexed allocation, Free space management: Bit vector, Linked list, Grouping, Counting. |
| **24 Jan – 31 Jan** | Device Management: Disk structure, Disk scheduling: FCFS, SSTF, SCAN, C-SCAN, LOOK, C-LOOK. |

**NAME OF EXTENSION LECTURER: Ritika**

**CLASS AND SECTION: BSc computer ,3rd sem**

**SUBJECT:** 3.1 **Subject: Data Communication and Networking**

**LESSION PLAN:2021-2022 SESSION**

|  |  |
| --- | --- |
| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 Oct - 9Oct** | Introduction to Computer Communications and Networking Technologies; Uses of Computer Networks |
| **Week 2, 11 Oct-16 Oct** | ; ; Network Devices, Nodes, and Hosts; Types of Computer Networks and their Topologies; |
| **Week 3, 18 Oct - 23 Oct** | Network Architecture and the OSI Reference Model, TCP/IP reference model |
| **Week 4, 25 Oct -30 Oct** | Analog and Digital Communications: Concept of data, signal, channel, bid-rate , maximum data-rate of channel |
| **Week 5, 8 Nov-13 Nov** | Representing Data as Analog Signals, Representing Data as Digital Signals, Data Rate and Bandwidth, Capacity, Baud Rate; |
| **Week 6, 15 Nov -20 Nov** | Asynchronous and synchronous transmission, , data encoding techniques, Modulation techniques |
| **Week 7, 22 Nov – 27 Nov** | , Digital Carrier Systems; Guided and Wireless Transmission Media; Communication Satellites; Switching and Multiplexing; |
| **Week 8, 29 Nov – 4 Dec** | Dialup Networking; Analog Modem Concepts. Data Link Layer: Framing, Flow Control, Error Control; Error Detection and Correction; Media Access Control: |
| **Week 9, 6 Dec – 11 Dec** | Random Access Protocols, Token Passing Protocols; Token Ring; Introduction to Ethernet, FDDI, Wireless LANs. Network Layer and Routing Concepts Virtual Circuits and Datagram’s, |
| **Week 10, 13 Dec – 18 Dec** | ; Routing Algorithms: Flooding, Shortest Path Routing, Distance Vector Routing; Internetworking |
| **Week 11, 20 Dec – 25 Dec** | .Transport layer: Elements of Transport protocol: Addressing, Connection Establishment, |
| **Week 12, 27 Dec – 1 Jan** | Flow Control Buffering, Crash recovery. Internet Transport protocol: UDP: Introduction, |
| **Week 13, 3 Jan – 8 Jan** | Real time Transport protocol, Remote Procedure Call. Application Layer: |
| **Week 14, 10 Jan – 15 Jan** | Domain Name System, Electronic Mail, World Wide Web. |
| **Week 15, 17 Jan – 22 Jan** | **Revision** |
| **Week 16, 24 Jan – 31 Jan** | **Test** |

**NAME OF EXTENSION LECTURER: Ritika**

**CLASS AND SECTION: BCA 5th SEMESTER SEC-B**

**SUBJECT: BCA-303 Subject: Data Communication and Networking**

**LESSION PLAN:2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 Oct - 9Oct** | Introduction to Computer Communications and Networking Technologies; Uses of Computer Networks; Network Devices, Nodes, and Hosts; |
| **Week 2, 11 Oct-16 Oct** | Types of Computer Networks and their Topologies; |
| **Week 3, 18 Oct - 23 Oct** | Network Software: Network Design issues and Protocols; |
| **Week 4, 25 Oct -30 Oct** | Connection-Oriented and Connectionless Services; Network Applications and Application Protocols; Encryption Methods; Authentication; Symmetric – Key Algorithms; |
| **Week 5, 8 Nov-13 Nov** | Computer Communications and Networking Models: Decentralized and Centralized Systems, Distributed Systems, Client/Server Model, Peer-to-Peer Model, Web Based Model, |
| **Week 6, 15 Nov -20 Nov** | Internetworking; Network Security Issues: Security threats; Public-Key Algorithms. Network Interface Cards and PC Cards |
| **Week 7, 22 Nov – 27 Nov** | Example Networks: The Internet, X.25, Frame Relay, ATM |
| **Week 8, 29 Nov – 4 Dec** | Analog and Digital Communications Concepts: Concept of data, signal, channel, bid-rate , maximum data-rate of channel, Representing Data as Analog Signals, |
| **Week 9, 6 Dec – 11 Dec** | Representing Data as Digital Signals, Data Rate and Bandwidth, Capacity, Baud Rate; Hierarchical Routing; Congestion Control Algorithms; |
| **Week 10, 13 Dec – 18 Dec** | Asynchrous and synchrous transmission, data encoding techniques, Modulation techniques, Digital Carrier Systems; |
| **Week 11, 20 Dec – 25 Dec** | Guided and Wireless Transmission Media; Communication Satellites; Switching and Multiplexing; |
| **Week 12, 27 Dec – 1 Jan** | Dialup Networking; Analog Modem Concepts; DSL Service. |
| **Week 13, 3 Jan – 8 Jan** | Flooding, Shortest Path Routing, Distance Vector Routing; Link State Routing |
| **Week 14, 10 Jan – 15 Jan** | Sliding Window Protocols; Media Access Control: Random Access Protocols, Token Passing Protocols; Network Layer and Routing Concepts: Virtual Circuits and Datagrams; Routing Algorithms: |
| **Week 15, 17 Jan – 22 Jan** | Token Ring; Introduction to LAN technologies: Ethernet, switched Ethernet, VLAN, fast Ethernet, Bridges, Switches, Routers, Gateways. |
| **Week 16, 24 Jan – 31 Jan** | Gigabit Ethernet, token ring, FDDI, Wireless LANs; Bluetooth; Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, |

**Lesson Plan BCA 2nd Year**

**DBMS**

**PAPER CODE- BCA 203**

**Extension Lecturer- Pooja CS Department, GPGCW, Rohtak.**

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| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Basic Concepts – Data, Information, Records and files. Traditional file –based Systems-File Based Approach-Limitations of File Based Approach |
| **11 Oct-16 Oct** | Database Approach-Characteristics of Database Approach, advantages and disadvantages of database system, |
| **18 Oct -23 Oct** | components of database system, Database Management System (DBMS) |
| **25 Oct -30 Oct** | Components of DBMS Environment, DBMS Functions and Components, DBMS users |
| **1 Nov-6 Nov** | **Diwali Vacations** |
| **8 Nov-13 Nov** | **Advantages and Disadvantages of DBMS, DBMS languages.** |
| **15 Nov -20 Nov** | **Roles in the Database Environment - Data and Database Administrator, Database Designers, Applications Developers and Users .** |
| **22 Nov – 27 Nov** | **Database System Architecture – Three Levels of Architecture, External, Conceptual and Internal Levels, Schemas, Mappings and Instances . Data Independence – Logical and Physical Data Independence** |
| **29 Nov – 4 Dec** | Classification of Database Management System, Centralized and Client Server architecture to DBMS . Data Models: Records- based Data Models, Object-based Data Models, Physical Data Models and Conceptual Modeling |
| **6 Dec – 11 Dec** | Entity-Relationship Model – Entity Types, Entity Sets, Attributes Relationship Types, Relationship Instances and ER Diagrams, abstraction and integration. Basic Concepts of Hierarchical and Network Data Model, |
| **13 Dec – 18 Dec** | Relational Data Model:-Brief History, Relational Model Terminology-Relational Data Structure, Database Relations, Properties of Relations, Keys, Domains, Integrity Constraints over Relations, |
| **20 Dec – 25 Dec** | **Functional dependencies, Modification anomalies, Ist to 3rd NFs, BCNF, 4th and 5th NFs,** |
| **27 Dec – 1 Jan** | computing closures of set FDs, SQL: Data types, Basic Queries in SQL, Insert, Delete and Update Statements, Views |
| **3 Jan – 8 Jan** | Query processing: General strategies of query processing, query optimization, query processor, concept of security, concurrency and recovery. |
| **10 Jan – 15 Jan** | **Relational algebra** |
| **17 Jan – 22 Jan** | Relational calculus |
| **24 Jan – 31 Jan** | Queries |

**NAME OF EXTENSION LECTURER: MONIKA AHLAWAT**

**CLASS AND SECTION: BCA 5th SEMESTER AND SECTION-A**

**SUBJECT: BCA-303 Subject: Data Communication and Networking**

**LESSION PLAN 2021-2022 SESSION**

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| --- | --- |
| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 Oct** | Introduction to Computer Communications and Networking Technologies |
| **Week 2, 4 Oct to 9 Oct** | Uses of Computer Networks; Network Devices, Nodes, and Hosts; Types of Computer Networks and their Topologies; |
| **Week 3, 11 Oct to 16 Oct** | Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; Network Applications and Application Protocols; |
| **Week 4, 18 Oct to 23 Oct** | Computer Communications and Networking Models: Decentralized and Centralized Systems, Distributed Systems, Client/Server Model, Peer-to-Peer Model, WebBased Model, |
| **Week 5, 25 Oct to 30 Oct** | , Network Architecture and the OSI Reference Model, TCP/IP reference model, Example Networks: The Internet, X.25, Frame Relay, ATM,assignment |
| **Week 6, 8 Nov to 13 Nov** | Analog and Digital Communications Concepts: Concept of data, signal, channel, bid-rate , maximum data-rate of channel, Representing Data as Analog Signals, |
| **Week 7, 15 Nov to 20 Nov** | Representing Data as Digital Signals, Data Rate and Bandwidth, Capacity, Baud Rate; Asynchrous and synchrous transmission, data encoding techniques, Modulation techniques, Digital Carrier Systems; |
| **Week 8, 22 Nov to 27 Nov** | Guided and Wireless Transmission Media; Communication Satellites; Switching and Multiplexing; Dialup Networking; Analog Modem Concepts; DSL Service. |
| **Week 9, 29 Nov to 4 Dec** | Data Link Layer: Framing, Flow Control, Error Control; Error Detection and Correction; Sliding Window Protocols; Media Access Control: Random Access Protocols |
| **Week 10, 6 Dec to 11 Dec** | , Token Passing Protocols; Token Ring; Introduction to LAN technologies: Ethernet, switched Ethernet, VLAN, fast Ethernet, |
| **Week 11, 13 Dec to 18 Dec** | Gigabit Ethernet, token ring, FDDI, Wireless LANs; Bluetooth;  Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, |
| **Week 12, 20 Dec to 25 Dec** | Bridges, Switches, Routers, Gateways, Network Layer and Routing Concepts: Virtual Circuits and Datagrams; Routing Algorithms: |
| **Week 13, 27 Dec to 1 Jan** | Flooding, Shortest Path Routing, Distance Vector Routing; Link State Routing, Test |
| **Week 14, 3 Jan to 8 Jan** | Hierarchical Routing; Congestion Control Algorithms; |
| **Week 15, 10 Jan to 15 Jan** | Internetworking; Network Security Issues: Security threats; |
| **Week 16, 17 Jan to 22 Jan** | Encryption Methods; Authentication; Symmetric – Key Algorithms;Public-Key Algorithms. Network Interface Cards and PC Cards, RSA Algorithm |
| **Week 17, 24 Jan to 29 Jan** | **Revision** |

**NAME OF EXTENSION LECTURER: MONIKA AHLAWAT**

**CLASS AND SECTION: BCA 3rd SEMESTER AND SECTION-B**

**SUBJECT: BCA-202 Subject: Data Structure -I**

**LESSION PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 Oct** | Introduction: Elementary data organization, Data Structure definition, |
| **Week 2, 4 Oct to 9 Oct** | Data type vs. data structure, Categories of data structures, Data structure operations, Applications of data structures |
| **Week 3, 11 Oct to 16 Oct** | Algorithms complexity and time-space tradeoff, Big-O notataion |
| **Week 4, 18 Oct to 23 Oct** | Strings: Introduction, Storing strings, String operations, |
| **Week 5, 25 Oct to 30 Oct** | Pattern matching algorithms. Arrays: Introduction, Linear arrays, Representation of linear array in memory, address calculations, |
| **Week 6, 8 Nov to 13 Nov** | Traversal, Insertions, Deletion in an array, Multidimensional arrays, Parallel arrays, Sparse arrays. Linked List: Introduction, Array vs. linked list, |
| **Week 7, 15 Nov to 20 Nov** | Representation of linked lists in memory, Traversal, Insertion, Deletion, Searching in a linked list |
| **Week 8, 22 Nov to 27 Nov** | Header linked list, Circular linked list, Two-way linked list, Threaded lists, Garbage collection, |
| **Week 9, 29 Nov to 4 Dec** | Applications of linked lists. Stack: Introduction, Array and linked representation of stacks |
| **Week 10, 6 Dec to 11 Dec** | Operations on stacks, Applications of stacks: Polish notation, Recursion.,Assignment |
| **Week 11, 13 Dec to 18 Dec** | Queues: Introduction, Array and linked representation of queues, Operations on queues,Test |
| **Week 12, 20 Dec to 25 Dec** | Deques, Priority Queues, Applications of queues. Tree: Introduction, Definition, Representing Binary tree in memory, |
| **Week 13, 27 Dec to 1 Jan** | Traversing binary trees, Traversal algorithms using stacks |
| **Week 14, 3 Jan to 8 Jan** | Graph: Introduction, Graph theory terminology, Sequential and linked representation of graphs. |
| **Week 15, 10 Jan to 15 Jan** | **Assignment** |
| **Week 16, 17 Jan to 22 Jan** | Revision |
| **Week 17, 24 Jan to 29 Jan** | **Revision** |

**NAME OF ASSISTANT PROFESSOR: JOGENDER SINGH**

**CLASS AND SECTION: BCA 3rd SEMESTER AND SECTION-A**

**SUBJECT: BCA-202 Subject: Data Structure -I**

**LESSION PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 Oct** | Introduction: Elementary data organization, Data Structure definition, |
| **Week 2, 4 Oct to 9 Oct** | Data type vs. data structure, Categories of data structures, Data structure operations, Applications of data structures |
| **Week 3, 11 Oct to 16 Oct** | Algorithms complexity and time-space tradeoff, Big-O notataion |
| **Week 4, 18 Oct to 23 Oct** | Strings: Introduction, Storing strings, String operations, |
| **Week 5, 25 Oct to 30 Oct** | Pattern matching algorithms. Arrays: Introduction, Linear arrays, Representation of linear array in memory, address calculations, |
| **Week 6, 8 Nov to 13 Nov** | Traversal, Insertions, Deletion in an array, Multidimensional arrays, Parallel arrays, Sparse arrays. Linked List: Introduction, Array vs. linked list, |
| **Week 7, 15 Nov to 20 Nov** | Representation of linked lists in memory, Traversal, Insertion, Deletion, Searching in a linked list |
| **Week 8, 22 Nov to 27 Nov** | Header linked list, Circular linked list, Two-way linked list, Threaded lists, Garbage collection, |
| **Week 9, 29 Nov to 4 Dec** | Applications of linked lists. Stack: Introduction, Array and linked representation of stacks |
| **Week 10, 6 Dec to 11 Dec** | Operations on stacks, Applications of stacks: Polish notation, Recursion.,Assignment |
| **Week 11, 13 Dec to 18 Dec** | Queues: Introduction, Array and linked representation of queues, Operations on queues,Test |
| **Week 12, 20 Dec to 25 Dec** | Deques, Priority Queues, Applications of queues. Tree: Introduction, Definition, Representing Binary tree in memory, |
| **Week 13, 27 Dec to 1 Jan** | Traversing binary trees, Traversal algorithms using stacks |
| **Week 14, 3 Jan to 8 Jan** | Graph: Introduction, Graph theory terminology, Sequential and linked representation of graphs. |
| **Week 15, 10 Jan to 15 Jan** | **Assignment** |
| **Week 16, 17 Jan to 22 Jan** | Revision |
| **Week 17, 24 Jan to 29 Jan** | **Revision** |

**NAME OF ASSISTANT PROFESSOR: JOGENDER SINGH**

**CLASS AND SECTION:- B.SC. (CS) SEMESTER : 1ST**

**SUBJECT CODE:** 1.2 **SUBJECT:** COMPUTER ARCHITECTURE

**LESSION PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 4 Oct to 9 Oct** | Logic Gates OR, AND , NOT, XOR Gates |
| **Week 2, 11 Oct to 16 Oct** | Boolean algebra and Digital Circuits |
| **Week 3, 18 Oct to 23 Oct** | Boolean algebra Law and Theorems like DeMorgan Law |
| **Week 4, 25 Oct to 30 Oct** | Introduction to logic circuits and types. |
| **Week 5,1 Nov to 7 Nov** | Diwali Holidays |
| **Week 6, 8 Nov to 13 Nov** | Simplifying logic circuits—sum of product and product of sum form, algebraic simplification, Karnaugh simplification |
| **Week 7, 15 Nov to 20 Nov** | Arithmetic Circuits: Adder, Subtractor, parallel Binary adder and Subtractor |
| **Week 8, 22 Nov to 27 Nov** | Arithmetic Circuits: Binary Multiplier and Divider |
| **Week 9, 29 Nov to 4 Dec** | Combinational Circuits: Decoders and Encoder and **Test** |
| **Week 10, 6 Dec to 11 Dec** | Combinational Circuits: Multiplexer and De-multiplexer circuits and Design of code Converters. |
| **Week 11, 13 Dec to 18 Dec** | Sequential Circuits: Flip-flop-S-R, D, J-K, T, Clocked Flip-flop, Race Around condition, **Test** |
| **Week 12, 20 Dec to 25 Dec** | Master-Slave Flip-Flop, Realization of One Flip-Flop using other Flip-Flop |
| **Week 13, 27 Dec to 1 Jan** | Shift-Registers, Counters-Ripple, Modular Synchronous, Ring & Twisted-Ring Counter. |
| **Week 14, 3 Jan to 8 Jan** | Register transfer and Micro-operations: Register transfer Language, Bus and Memory Transfer, Arithmetic, Logic Micro-operations, Shift Micro-operations. |
| **Week 15, 10 Jan to 15 Jan** | Basic computer organization and Design: Instruction and instructions codes, computer instructions, timing and control, instruction cycle |
| **Week 16, 17 Jan to 22 Jan** | Memory references instructions, input- output reference instructions and interrupts; |
| **Week 17, 24 Jan to 29 Jan** | **Revision of 1-2 Units and Test** |
| **Week 18, 1 FEB** | **Revision of 3-4 Units and Test** |

**Lesson Plan**

**Class –M.Sc. 3rd (Computer Science)**

**Faculty –Mr. Chain Singh**

**Subject –COMPUTER GRAPHICS (Code:17MCS23DA3)**

**Lesson Plan Duration –From October 2021 to January 2022**

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| **Time Period** | **Topics** |
| **1Oct. to 9 Oct. 2021** | Computer Graphics and Its Types, Applications of Computer Graphics |
| **11 Oct. to 16 Oct. 2021** | Graphics Display Devices: CRT (Random-Scan and Raster Scan Monitor), Color CRT Monitors, Refresh CRT and Interlacing |
| **18 Oct. to 23 Oct. 2021** | DVST, Emissive and Non- Emissive Display devices; Hard copy devices; Graphics Software Standards |
| **25 Oct. to 30 Oct. 2021** | Scan Converting a Point, Line: Slope Method, DDA and Bresenham’s Algorithm, Circle: Mid-Point and Bresenham’s Algorithm, |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8Nov. to 13 Nov.2021** | Anti- aliasing, Rotations, Translation, Scaling, Reflection, shearing; Homogeneous coordinates: |
| **15Nov. to 20 Nov.2021** | Need, Transformations in Homogeneous Coordinates. Composite Transformation. |
| **22Nov. to 27 Nov.2021** | Scan-Line Polygon Fill Algorithm, Inside-Outside tests, Boundary-Fill Algorithm, Flood Fill Algorithm, |
| **29 Nov. to 4 Dec. 2021** | Cell Array, Character Generation. The Viewing Pipeline, Window to View port coordinate transformation |
| **6 Dec. to 11 Dec. 2021** | Clipping Operations, Point Clipping, Line Clipping, Polygon Clipping for convex and concave polygons, |
| **13 Dec. to 18 Dec. 2021** | Text Clipping, Exterior Clipping. Basic Positioning Method, Rubber Band Methods, Dragging, Painting and Drawing. Constraints, Grids, Gravity field, |
| **20 Dec. to 25Dec. 2021** | Three Dimensional Display Methods Parallel Projection and Perspective Projection; |
| **27 Dec. to 31Dec. 2021** | 3D Transformations: Translation, Rotation & Scaling. Applications of 3D graphics. |
| **1 Jan. to 8 Jan. 2022** | Revision unit 1 |
| **10 Jan. to 15 Jan. 2022** | Revision Unit 2 |
| **17 Jan. to 22 Jan. 2022** | Revision unit 3 |
| **22 Jan. to 29 Jan. 2022** | Revision Unit 4 |

**Lesson Plan**

**Class – APGDCA 1st Sem**

**Faculty – Mr. Chain Singh**

**Subject -PROGRAMMING IN C AND DATA STRUCTURE**

**Paper Code- APGDCA - 103**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

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| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | **Introduction to Problem Solving : Top Down Design, Algorithm, Characteristics of Algorithm,** |
| 15th Nov to 20th Nov | **Implementation of Algorithms, Efficiency of Algorithms, Analysis of Algorithm. Fundamental algorithms, Array Techniques, Merging, Sorting & Searching Techniques,** |
| 22th Nov to 27th Nov | **TextProcessing and Pattern Search, Dynamic Data Structure Algorithms, Recursive Algorithms.Elements of Program Style, Flowcharts : Flowchart Symbols, Its Types, Benefits and Limitations;** |
| 29th Nov to 4th Dec | **Decision Tables, Pseudocodes : Using User Input, Files, Reports and Output on Paper/Console;Practice of Algorithm Development and Flowcharting** |
| 6th Dec to 11th Dec | **C Programming: Basic concepts of programming, problem solving, algorithm designing andflowcharting, concept of structured programming, evolution of C language,** |
| 6th Dec to 11th Dec | **Advantages of C, variablesand constants, operators, expressions, loops, arrays, functions, structures, pointers, file-handling.** |
| 13th Dec to 18th Dec | **Data Structure: Fundamental Notations: Primitive and Composite data types. Time and Space complexity of algorithms.** |
| 20th Dec to 24th Dec | **Data structures: Arrays,** |
| 27th Dec to 1th Jan 2022 | **Stacks, Queues,** |
| 3rd Jan to 8thJan | **Linked Lists,** |
| 10th Jan to 15th Jan | **Trees and Graphs.** |
| 17th Jan to 22th Jan | **File Structures: Concepts of fields, records and files. Sequential file organisation, ISAM, Hashingtechniques,** |
| 24th Jan to 29th Jan | **Inverted Lists and Multilists. Sorting: Internal and External sorting.** |
| 31st Jan to 5th Feb | **Searching techniques and Merging algorithm** |
| 7th Feb to 12thFeb | **Revision** |
| 14thFebl to 19thFeb | **Revision** |
| 21th Feb to 26th Feb | **Revision** |
| 26th Feb Onwards | **Revision** |

**Name of Associate Professor: Ms. Sudesh Lather**

**Class and Section: M.Sc. 1stSEM (Computer Sc.)**

**Subject: Computer Fundamentals and Programming in C**

**Paper Code: 16MCS21C2**

**Lesson Plan**: November 2021 to February 2022

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| Week of Month | Topics to be covered | Assignment/Test to be given |
| 12th Nov to 13th Nov | Concept of data and information; Components of Computer: Hardware, Input Device, Output Device | Assignment based on Topics covered |
| 15th Nov to 20th Nov | CPU: Components of CPU; Memory and Storage Devices; Computer Software: System Software and Application Software; Functions of Operating System.  Programming Languages: Machine, Assembly, High Level Language, 4GL; Language Translator; Linker, Loader | Assignment based on Topics covered |
| 22th Nov to 27th Nov | Classification of Computers: Micro, Mini, Mainframe, Super computer. Advantages of Computer,  Limitations of Computer, Range of Applications of Computer, Social concerns of Computer Technology: Positive and Negative Impacts, Computer Crimes, | Assignment based on Topics covered |
| 29th Nov to 4th Dec | Viruses and their remedial solutions. Problem Solving: Problem Identification, Analysis, Flowcharts, Decision Tables, Pseudo codes and algorithms, Program Coding, Program Testing and Execution | Assignment based on Topics covered |
| 6th Dec to 11th Dec | C Programming Fundamentals: Keywords, Variables and Constants, Structure of a C program. Operators & Expressions: Arithmetic, Unary, Logical, Bit-wise, Assignment & Conditional Operators, Library Functions, | Assignment based on Topics covered |
| 13th Dec to 18th Dec | Control Statements: Looping using while, do…while, for statements, Nested loops; decision making using if…else, Else If Ladder | Assignment based on Topics covered |
| 20th Dec to 25th Dec | Switch, break, Continue and Goto Statements. Declaration, initialization of Multidimensional Arrays | Assignment based on Topics covered |
| 27th Dec to 1th Jan 2022 | String: Operations of  Strings; Functions: Defining & Accessing User defined functions, Function Prototype | Assignment based on Topics covered |
| 3rd Jan to 8th Jan | Passing Arguments, Passing array as argument, Recursion, Use of Library Functions; Macro vs. Functions | Assignment and test based on Topics covered |
| 10th Jan to 15th Jan | Pointers: Declarations, Operations on Pointers, Passing to a function, Pointers & Arrays | Assignment based on Topics covered |
| 17th Jan to 22th Jan | Array of Pointers, Array accessing through pointers, Pointer to functions, Function returning pointers | Assignment based on Topics covered |
| 24th Jan to 29th Jan | Dynamic Memory Allocations, Structures and Union: Defining and Initializing Structure, Array within Structure | Assignment based on Topics covered |
| 31st Jan to 5th Feb | Array of Structure, Nesting of Structure, Pointer to Structure, Passing structure and its pointer to Functions | Assignment and test based on Topics covered |
| 7th Feb to 12th Feb | Unions: Introduction to Unions and its Utilities. Files Handing: Opening and closing file in C; Create, Read and Write data to a file | Assignment based on Topics covered |
| 14th Feb to 19th Feb | Modes of Files |  |
| 21st Feb to 26th Feb | Operations on file using C Library Functions; Working with Command Line Arguments. Program Debugging and types of errors | Assignment based on Topics covered |
| 27th Feb Onwards | Revision of all Syllabus | Test and Presentation |
|  |  |  |

**Name of Associate Professor: Ms. Sudesh Lather**

**Class and Section: M.SC. 1stSem(Computer Sc.)**

**Subject: Practical Software Lab**

**Paper Code: 16MCS21CL**

Practical Syllabus will be met as per schedule of concerned theory paper i.e. based on 16MCS21C2

**Name of Assistant Professor: Ms. Suman Ahlawat**

**Class and Section: M.Sc. 1stSem(Computer Sc.)**

**Subject: Database Management Systems**

**Paper Code: 16MCS21C3**

**Lesson Plan**: November 2021 to February 2022

|  |  |  |
| --- | --- | --- |
| **Week of Month** | **Topics to be covered** | **Assignment/Test to be given** |
| 12th Nov to 13th Nov | Database System vs File Processing System, Characteristics of database approach, Views of data | Assignment based on Topics covered |
| 15th Nov to 20th Nov | DBMS architecture and Data independence, Data Abstraction, Instance and Schemas, Data models | Assignment based on Topics covered |
| 22th Nov to 27th Nov | Database Languages: DDL, DML, DCL, Database Access for applications Programs, Database Users and Administrator, Transaction Management, Database system Structure, Storage Manager, Query Processor, History of Database. | Assignment based on Topics covered |
| 29th Nov to 4th Dec | Database Design and E-R Modeling: Database Design: Conceptual, Logical and Physical Design; | Assignment based on Topics covered |
| 6th Dec to 11th Dec | E-R Model: Entity types, Entity set, attribute and key, Relationships, Relation types, Roles and Structural constraints, Weak entities, Enhanced ER Model | Assignment based on Topics covered |
| 13th Dec to 18th Dec | Relational Model: Introduction to the Relational Model, Integrity Constraint over Relations, Enforcing Integrity constraints, Querying relational data | Assignment based on Topics covered |
| 20th Dec to 25th Dec | Introduction to views, Destroying/altering Tables and Views | Assignment based on Topics covered |
| 27th Dec to 1th Jan 2022 | Relational Algebra and Calculus: Relational Algebra, Set operations, Selection and projection, renaming, Joins, Division, Examples of Algebra overviews | Assignment based on Topics covered |
| 3rd Jan to 8th Jan | Relational calculus: Tuple relational Calculus, Domain relational calculus, Expressive Power of Algebra and Calculus | Assignment based on Topics covered |
| 10th Jan to 15th Jan | Schema Refinement, Functional dependencies: Schema refinement in Data base Design, Problems Caused by redundancy, Decompositions, Problem related to decomposition, Lossless join Decomposition, Dependency preserving Decomposition | Assignment and test based on Topics covered |
| 17th Jan to 22th Jan | Normalization: FIRST, SECOND, THIRD Normal forms, BCNF, Forth Normal Form, Fifth Normal Form | Assignment based on Topics covered |
| 24th Jan to 29th Jan | Transaction Management: ACID Properties, Transactions and Schedules, Concurrent Execution of transaction, Serializability and recoverability | Assignment based on Topics covered |
| 31st Jan to 5th Feb | Concurrency Control: Introduction to Lock Management, Lock Conversions, Dealing with Dead Locks, Concurrency without Locking, Recovery Techniques, Database Security | Assignment based on Topics covered |
| 7th Feb to 12th Feb | Introduction to Oracle: Getting started, Modules of Oracle, Invoking SQLPLUS, Data types, Data Constraints, Operators, Data manipulation - Create, Modify, Insert, Delete and Update; Searching, Matching and Oracle Functions | Assignment based on Topics covered |
| 14th Feb to 19th Feb | Introduction to PL/SQL: Advantages of PL/SQL, Generic PL/SQL Block, Execution Environment, Control Structure, Transactions, Security, database objects. | Assignment based on Topics covered |
| 21st Feb to 26th Feb | Control Structure, Transactions, Security, database objects. | Assignment based on Topics covered |
| 27th Feb Onwards | Revision of all Syllabus | Test and Presentation |
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**Name of Assistant Professor: Ms. Suman Ahlawat**

**Class and Section: B.SC Math hons 3rd Sem (Computer Sc.)**

**Subject: Database Management and Oracle**

**Paper Code: BHM236**

**Lesson Plan**: October 2021 to February 2022

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| **Week of Month** | **Topics to be covered** | **Assignment/Test to be given** |
| 1st Oct to 9th Oct | Basic Concepts: File systems vs DBMS, advantages and disadvantages of DBMS, objectives of a database. Database systems concepts and architecture | Assignment based on Topics covered |
| 11th Oct to 16th Oct | Data Modeling for a database: records and files, abstraction and data integration. | Assignment based on Topics covered |
| 18th Oct to 23rd Oct | Database Management System: Relational, Network, and Hierarchical | Assignment based on Topics covered |
| 1st Nov to 6th Nov | Diwali Holidays |  |
| 8th Nov to 13th Nov | Relational Data Manipulations: Relational Algebra, Relational Calculus, SQL | Assignment based on Topics covered |
| 15th Nov to 20th Nov | Relational Database Design: Functional dependencies, Finding keys; 1st to 3rd NFs | Assignment based on Topics covered |
| 22th Nov to 27th Nov | CNF, Lossess Join and Dependency preserving decomposition | Assignment based on Topics covered |
| 29th Nov to 4th Dec | Query Processing: General strategies for query processing, query optimization, query processor | Assignment based on Topics covered |
| 6th Dec to 11th Dec | Database security issues and recovery techniques. | Assignment based on Topics covered |
| 13th Dec to 18th Dec | Introduction to Oracle: Modules of Oracle, Invoking SQLPLUS, Data types, Data Constraints | Assignment and test based on Topics covered |
| 20th Dec to 25th Dec | Operators, Data manipulation: Create, Modify, Insert, Delete and Update; Searching, Matching and Oracle Functions. | Assignment based on Topics covered |
| 27th Dec to 1th Jan 2022 | SQL\*Forms: Form Construction, user-defined form, multiple-record form, Master-detail form. PL/SQL Blocks in SQL\*Forms, | Assignment based on Topics covered |
| 3rd Jan to 8th Jan | PL/SQL syntax, Data types, PL/SQL functions, Error handling in PL/SQL, package functions, package procedures, Oracle transactions. | Assignment based on Topics covered |
| 10th Jan to 15th Jan | SQL\*ReportWriter: Selective dump report, Master-detail Report, Control-break Report, Test report. | Assignment based on Topics covered |
| 17th Jan to 22th Jan | Database Triggers: Use & type of database Triggers, Database Triggers Vs SQL\*Forms, | Assignment based on Topics covered |
| 24th Jan to 29th Jan | Database Triggers Vs. Declarative Integrity Constraints, BEFORE vs AFTER Trigger Combinations, Creating a Trigger, Dropping a Trigger. | Assignment based on Topics covered |
| 31st Jan Onwards | Revision of all Syllabus | Test and Presentation |

**Name of Assistant Professor: Ms. Suman Ahlawat**

**Class and Section: APGDCA 1ST Sem (Computer Sc.)**

**Subject: Practical-I**

**Paper Code: APGDCA-105**

Practical Syllabus will be met as per schedule of concerned theory paper i.e. based on APGDCA-101 &103

**Name of Assistant Professor: Ms. Suman Ahlawat**

**Class and Section: M.SC. 3rd Sem (Computer Sc.)**

**Subject: Practical Software Lab**

**Paper Code: 17MCS23CL**

Practical Syllabus will be met as per schedule of concerned theory paper i.e. based on 17MCS23C1, 17MCS23C2, 17MCS23DA3

**Name of Associate Professor: Dr.Nisha Malik**

**Class and Section: M.Sc. 1stSEM (Computer Sc.)**

**Subject: Computer Organisation and Architecture**

**Paper Code: 16MCS21C4**

**Lesson Plan**: November 2021 to February 2022

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| --- | --- | --- |
| **Week of Month** | **Topics to be covered** | **Assignment/Test to be given** |
| 12th Nov to 13th Nov | Number Systems: Binary, Octal and Hexadecimal | Assignment based on Topics covered |
| 15th Nov to 20th Nov | Integer andFloating-point representation, Character codes: ASCII and EBCDIC | Assignment based on Topics covered |
| 22th Nov to 27th Nov | Boolean Algebra and Logic Gates: OR, AND, NOT,XOR Gates | Assignment based on Topics covered |
| 29th Nov to 4th Dec | De Morgan’s theorem; Universal building blocks; Simplifying logic circuits: sum ofproduct and product of sum form | Assignment based on Topics covered |
| 6th Dec to 11th Dec | Karnaugh Map simplification ion; Combinational logic blocks (Adders, Multiplexers, Encoders, Decoder) | Assignment based on Topics covered |
| 13th Dec to 18th Dec | Flip-Flops, Types of Flip-Flops, Registers, Counters, Register Transfer Language, Bus and Memory Transfer | Assignment based on Topics covered |
| 20th Dec to 25th Dec | Micro operations: Arithmetic, Logic & Shift Micro operations | Assignment based on Topics covered |
| 27th Dec to 1th Jan 2022 | Basic Computer Organization and Design: Instructions Codes, Register reference, Memory Reference & Input-Output instructions | Assignment based on Topics covered |
| 3rd Jan to 8th Jan | Instruction Cycle, Timing and Control, Interrupts; Design of  Control unit: Hardwired control unit, Micro-programmed control unit | Assignment and test based on Topics covered |
| 10th Jan to 15th Jan | Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Cache Memory, Virtual Memory | Assignment based on Topics covered |
| 17th Jan to 22th Jan | Register Organization and Parallel Processing: General Register Organization, Stack  Organization, Instruction Formats, Addressing Modes; Data Transfer & Manipulation Instructions, | Assignment based on Topics covered |
| 24th Jan to 29th Jan | Dynamic Memory Allocations, Structures and Union: Defining and Initializing Structure | Assignment based on Topics covered |
| 31st Jan to 5th Feb | Input-Output Organization: Peripheral Devices, Input-Output interface, Asynchronous Data  Transfer, Modes of transfer | Assignment and test based on Topics covered |
| 7th Feb to 12th Feb | Priority interrupt, Direct Memory Access (DMA) | Assignment based on Topics covered |
| 14th Feb to 19th Feb | Input-output processors (IOP), Serial communication. Multi-processors, characteristics of multi-processors,  Interconnection structures, | Assignment based on Topics covered |
| 21st Feb to 26th Feb | Inter-processor Arbitration, Inter-processor Communication and Synchronization, Cache Coherence. | Assignment based on Topics covered |
| 27th Feb Onwards | Revision of all Syllabus | Test and Presentation |
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**Name of AssociateProfessor: Dr. Nisha Malik**

**Class and Section: APGDCA 1st SEM (Computer Sc.)**

**Subject: Computer Organisation and Architecture**

**Paper Code: APGDCA 104**

**Lesson Plan**: November 2021 to February 2022

|  |  |  |
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| **Week of Month** | **Topics to be covered** | **Assignment/Test to be given** |
| 12th Nov to 13th Nov | Number Systems: Binary, Octal and Hexadecimal | Assignment based on Topics covered |
| 15th Nov to 20th Nov | Integer andFloating-point representation, Character codes: ASCII and EBCDIC | Assignment based on Topics covered |
| 22th Nov to 27th Nov | Boolean Algebra and Logic Gates: OR, AND, NOT,XOR Gates | Assignment based on Topics covered |
| 29th Nov to 4th Dec | De Morgan’s theorem; Universal building blocks; laws and theorems of Boolean algebra, Simplifying logic circuits: sum ofproduct and product of sum form | Assignment based on Topics covered |
| 6th Dec to 11th Dec | Algebraic Simplification, Karnaugh Map simplification ion; Combinational logic blocks (Adders, Multiplexers, Encoders, Decoder) | Assignment based on Topics covered |
| 13th Dec to 18th Dec | Flip-Flops, Types of Flip-Flops, Registers, Counters, Register Transfer Language, Bus and Memory Transfer | Assignment based on Topics covered |
| 20th Dec to 25th Dec | Micro operations: Arithmetic, Logic & Shift Micro operations | Assignment based on Topics covered |
| 27th Dec to 1th Jan 2022 | Basic Computer Organization and Design: Instruction and instructions Codes, Computer instructions, timing and Control, Instruction Cycle, Memory Reference Instructions, Input-Output and Interrupts; Complete Computer Description | Assignment based on Topics covered |
| 3rd Jan to 8th Jan | Programming the Basic Computer: Machine Language, Assembly Language, The assembler, program loops, programming Arithmetic and Logic, Subroutines, Inputs-Outputs programming | Assignment and test based on Topics covered |
| 10th Jan to 15th Jan | Micro-programmed Control: Control Memory, Address Sequencing, Micro-programme, Design of Control Unit | Assignment based on Topics covered |
| 17th Jan to 22th Jan | Central Processing Unit: General Register Organization, Stack  Organization, Instruction Formats, Addressing Modes; Data and Transfer Manipulation, Program Control, Reduced Instruction Set Computer | Assignment based on Topics covered |
| 24th Jan to 29th Jan | Pipeline and vector Processing parallel processing, Pipelining, Arithmetic Pipeline, RISC Ouoekubem Vector Processing, Array Processors | Assignment based on Topics covered |
| 31st Jan to 5th Feb | Computer Arithmetic: addition and Subtraction, Multiplication Algorithms, Division Algorithm, Floating -Point arithmetic Operations, decimal arithmetic Unit, Decimal Arithmetic Operations | Assignment and test based on Topics covered |
| 7th Feb to 12th Feb | Input-Output Organization: Peripheral Devices, Input-Output interface, Asynchronous Data  Transfer, Modes of transfer  Priority interrupt, Direct Memory Access (DMA) | Assignment based on Topics covered |
| 14th Feb to 19th Feb | Input-output processors (IOP), Serial communication. Multi-processors, characteristics of multi-processors,  Interconnection structures, | Assignment based on Topics covered |
| 21st Feb to 26th Feb | Inter-processor Arbitration, Inter-processor Communication and Synchronization, Cache Coherence. | Assignment based on Topics covered |
| 27th Feb Onwards | Revision of all Syllabus | Test and Presentation |
|  |  |  |

**Name of AssociateProfessor: Ms. Nisha Malik**

**Class and Section: M.SC. 3rd Sem (Computer Sc.)**

**Subject: Practical Software Lab**

**Paper Code: 17MCS23CL**

Practical Syllabus will be met as per schedule of concerned theory paper i.e. based on 17MCS23C1, 17MCS23C2, 17MCS23DA3

**Lesson Plan**

**Class –BBA 1st Sem**

**Faculty – Neha Narwal**

**Subject –Computer fundamentals**

**Paper Code- BBAN104**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

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| --- | --- |
| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | Digital and analogcomputer,evolution of computer |
| 15th Nov to 20th Nov | Input output devices |
| 22th Nov to 27th Nov | Printer and plotters |
| 29th Nov to 4th Dec | **Types of memory** |
| 6th Dec to 11th Dec | **Assignment of unit 1** |
| 6th Dec to 11th Dec | **Test of Unit 1** |
| 13th Dec to 18th Dec | Number system |
| 20th Dec to 24th Dec | Mathematical operation |
| 27th Dec to 1th Jan 2022 | Hexadecimal and octal |
| 3rd Jan to 8thJan | **Assignment and test of unit 2.** |
| 10th Jan to 15th Jan | Intro to os,history,types of os |
| 17th Jan to 22th Jan | File management |
| 24th Jan to 29th Jan | Memory management |
| 31st Jan to 5th Feb | **Test of Unit III** |
| 7thFeb to 12th Feb | Computer app in office its uses |
| 14thFeb to 19th Feb | Basics of computer |
| 21st Feb to 26th Feb | **Test on Unit - 4** |
| 27thFeb Onwards | **Revision** |

**Lesson Plan**

**Class –BBA5th Sem**

**Faculty – Neha Narwal**

**Subject –Computer networking and internet**

**Paper Code- BBAN504**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

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| --- | --- |
| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | Intro to network |
| 15th Nov to 20th Nov | Network topology |
| 22th Nov to 27th Nov | Transmission media |
| 29th Nov to 4th Dec | **Types of memory** |
| 6th Dec to 11th Dec | **Assignment of unit 1** |
| 6th Dec to 11th Dec | **Test of Unit 1** |
| 13th Dec to 18th Dec | OSI model |
| 20th Dec to 24th Dec | TCP/IP model |
| 27th Dec to 1th Jan 2022 | cryptography |
| 3rd Jan to 8thJan | **Assignment and test of unit 2.** |
| 10th Jan to 15th Jan | Internet |
| 17th Jan to 22th Jan | Web search engine |
| 24th Jan to 29th Jan | newsgroup |
| 31st Jan to 5th Feb | **Test of Unit III** |
| 7thFeb to 12th Feb | intranet |
| 14thFeb to 19th Feb | http |
| 21st Feb to 26th Feb | **Test on Unit - 4** |
| 27thFeb Onwards | **Revision** |

**Lesson Plan BCA 2nd Year**

**OPERATING SYSTEM**

**PAPER CODE- BCA 201**

**Extension Lecturer- Parmod Kumar CS Department, GPGCW, Rohtak.**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Fundamentals of Operating system: Introduction to Operating System, its need and operating System services, Early systems, Structures - Simple Batch, Multi programmed |
| **11 Oct-16 Oct** | timeshared, Personal Computer, Parallel, Distributed Systems, Real-Time Systems. Process Management: Process concept, Operation on processes, |
| **18 Oct - 23 Oct** | Cooperating Processes, Threads, and Inter-process Communication |
| **25 Oct -30 Oct** | Test & Revision |
| **1 Nov-6 Nov** | **Diwali Vacations** |
| **8 Nov-13 Nov** | CPU Scheduling: Basic concepts, Scheduling criteria, Scheduling algorithms : FCFS, SJF, Round Robin & Queue Algorithms. |
| **15 Nov -20 Nov** | Deadlocks: Deadlock characterization, Methods for handling deadlocks, Banker’sAlgorithm |
| **22 Nov – 27 Nov** | Memory Management: Logical versus Physical address space, Swapping, Contiguous allocation, Paging, Segmentation |
| **29 Nov – 4 Dec** | Revision |
| **6 Dec – 11 Dec** | Virtual Memory: Demand paging, Performance of demand paging, Page replacement, Page replacement algorithms, Thrashing. |
| **13 Dec – 18 Dec** | File management: File system Structure, Allocation methods: Contiguous allocation, Linked allocation, Indexed allocation, |
| **20 Dec – 25 Dec** | Free space management: Bit vector, Linked list, Grouping, Counting. |
| **27 Dec – 1 Jan** | Queries |
| **3 Jan – 8 Jan** | Device Management: Disk structure, Disk scheduling: |
| **10 Jan – 15 Jan** | FCFS, SSTF, SCAN, C-SCAN, LOOK, C-LOOK. |
| **17 Jan – 22 Jan** | Revision |
| **24 Jan – 31 Jan** | Queries |

**Lesson Plan B.com 1st sem.**

**Basics of Computer**

**PAPER CODE- 1.06**

**Extension Lecturer- Parmod Kumar CS Department, GPGCW, Rohtak.**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Introduction to Computers: Definition of Computer; Components of Computer; Characteristics of Computers |
| **11 Oct-16 Oct** | History evolution of Computers; Generation of computers; Classification of Computers- According to Purpose, According to Technology , According to Size and Storage Capacity |
| **18 Oct - 23 Oct** | Human being VS Computer; Difference between Computer and Calculator |
| **25 Oct -30 Oct** | Test & Revision |
| **1 Nov-6 Nov** | **Diwali Vacations** |
| **8 Nov-13 Nov** | Input Devices: Mouse, Keyboard, Light pen, Track Ball, Joystick, MICR, Optical Mark reader and Optical Character Reader Scanners, Voice system, Web Camera |
| **15 Nov -20 Nov** | Output Devices: Hard Copy Output Devices; Line Printers, Character Printers, Chain Printers, Dot-matrix Printers, Daisy Wheel Printer, Laser Printers, Ink Jet Printers |
| **22 Nov – 27 Nov** | Memory Management: Logical versus Physical address space, Swapping, Contiguous allocation, Paging, Segmentation |
| **29 Nov – 4 Dec** | Plotters, Soft Copy device –Monitor, Sound Cards and speakers. |
| **6 Dec – 11 Dec** | Memory and Mass Storage Devices: Characteristics of Memory Systems; Memory Hierarchy; Types of Primary Memory; RAM and ROM |
| **13 Dec – 18 Dec** | Secondary and Back-up; Magnetic Disks, Characteristics and classification of Magnetic Disks; Optical Disks; Magnetic Taps. |
| **20 Dec – 25 Dec** | Free space management: Bit vector, Linked list, Grouping, Counting. |
| **27 Dec – 1 Jan** | Queries |
| **3 Jan – 8 Jan** | MS- Word: Fundamentals of MS-Word, Features of MS-Word, Menus, Formatting and Standard Toolbars, Ruler |
| **10 Jan – 15 Jan** | Scroll Bar, Creating, Editing, Saving, export and import files, inserting and copying the files, Working with frames, Paragraph formatting, Columns, Pictures, Tables, Macros and Mail Merge. |
| **17 Jan – 22 Jan** | Revision |
| **24 Jan – 31 Jan** | Queries |

**Lesson Plan (Even Semester)**

**(October 2020-January2021)**

**Class –B.Sc. N.M. (5th -Sem)**

**Faculty - Dr. RohiniSharma**

**Subject –5.2: Introduction to Internet and Web Technologies**

**Lesson Plan Duration - From October 2020 to January 2021**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **8 October- 16October** | *(Unit-1):*Introduction to Internet, Benefits of Internet, WWW, Hardware and software requirement for internet |
| **18 October- 23 October** | internet protocols, applications of internet, Internet Tools- Telnet |
| **25 October- 30 October** | FTP,Gopher, Archie, Veronica,  Mosaic, |
| **1November - 7November** | Deepawali Vacations |
| **8 November - 13 November** | WAIS, IRC, Online Chatting, Messaging |
| **15 November - 20 November** | Conferencing Concepts, resources of internet, Test of Unit 1 |
| **22 November - 27 November** | (Unit -2): E-Mail mailing lists, Internet addressing, internet service provider (ISP),internet in India- Shell account, |
| **29 November - 4December** | TCP/IP account, Home page and Web Site, internet accessing, internet terminology |
| **6 December - 11 December** | Internet security  problems and solutions. Overview of Intranet and its applications, |
| **13 December - 18 December** | Web Browsers, Search Engines,  Categories of Search Engines, Searching Criterion, Surfing the Net, Hypertext Transfer Protocol (HTTP),  URL, Test of Unit 2 |
| **20 December - 25 December** | (Unit 3): HTML: Internet Language, Understanding HTML, Create a Web Page |
| **27 December - 01January** | Linking to other Web Pages,  Publishing HTML Pages, Text Alignment and Lists, Text Formatting Fonts Control |
| **03 January - 08 January** | E-mail Links and  link within a Page, Creating HTML Forms. Test of Unit 3 |
| **10 January - 15 January** | (unit 4): Creating Web Page Graphics, Putting Graphics on a Web Page, Custom Backgrounds and Colors |
| **17 January - 22 January** | Creating Animated Graphics., Web Page Design and layout |
| **24 January - 31 January** | Advanced Layout with Tables, Using Style  Sheets. Test of Unit 4  Revision |

**Class –B.Sc. N.M. (5th - Sem)**

**Faculty - Dr. Rohini Sharma**

**Subject –Practical Lab Based On 5.2: Introduction to Internet and Web Technologies and 5.1: Database Management System**

**Lesson Plan Duration - From October 2020 to January 2021**

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| --- | --- |
| **Time Period** | **Topics** |
| **8 October- 16 October** | **SQL**: Types & components of SQL, Data Definition and data types |
| **18 October- 23 October** | SQL: Data definition commands |
| **25 October- 30 October** | Data  manipulation commands, |
| **1 November - 7 November** | Data Control Commands Specifying Constraints(Primary Constraint,. Foreign  key, Unique, Not Null) in SQL |
| **8 November - 13 November** | Schema, Basic Queries in SQL, Insert, Delete and Update operations. |
| **15 November - 20 November** | Inbuilt Date, String functions. Commit, Rollback, Save points. |
| **22 November - 27 November** | Introduction to HTML, HTML attributes, Tags |
| **29 November - 4 December** | Font Alignment, Picture , color |
| **6 December - 11 December** | Tables in HTML, Numbering, Table Borders, Padding, Headers, Colspan, Rowspan |
| **13 December - 18 December** | Text formatting, Email\_Link, Hyperlink |
| **20 December - 25 December** | HTML forms |
| **27 December - 01 January** | Create links to other sections within same page |
| **03 January - 08 January** | Create Web page |
| **10 January - 15 January** | Publishing HTML pages |
| **17 January - 22 January** | Revision |
| **24 January - 31 January** | Revision |

**Lesson Plan**

**Class - MASTER OF SCIENCE (COMPUTER SCIENCE) – (3rd -Sem)**

**Faculty - Dr. Rohini Sharma**

**Subject –ARTIFICIAL INTELLIGENCE (Code: 17MCS23DB3)**

**Lesson Plan Duration - From October 2020 to January 2021**

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| **Time Period** | **Topics** |
| **8 October- 16 October** | *(Unit-1):*State space search: Production systems, Search space control, Depth first search, unknown search |
| **18 October- 23 October** | Hill climbing best first search, branch and bound,Best First Search, Problem Reduction, |
| **25 October- 30 October** | ConstraintsSatisfaction,Means End Analysis Test and Revision of Unit 1 |
| **1 November - 7 November** | Deepawali Vacations |
| **8 November - 13 November** | (Unit -2): Predicate logic: Skolemization queries  Unification, Modus pones,dependency directed back tracking |
| **15 November - 20 November** | Resolution,Forward reasoning Conflict resolution,Backward reasoning. Use of non-back track., Test of Unit 2 |
| **22 November - 27 November** | (Unit 3): Sensing, Speech recognition, Vision, Action, Neural networks: Introduction |
| **29 November - 4 December** | Comparison of artificial neural networks with biological neural networks |
| **6 December - 11 December** | Learning in neural networks, Perceptions link within a Page, Back propagation networks, application of neural networks. |
| **13 December - 18 December** | Fuzzy logic: Definition, Difference between Boolean and Fuzzy logic, fuzzy subset |
| **20 December - 25 December** | fuzzy membership function, fuzzy expert system, |
| **27 December - 01 January** | Inference process for fuzzy expert system, fuzzy controller, Test of Unit 3 |
| **03 January - 08 January** | (unit 4):Expert system development life cycle: Problem selection, Prototype construction, Formalization |
| **10 January - 15 January** | Implementation, Evaluation, Knowledge acquisition:Knowledge engineer, Cognitive behavior, Acquisition techniques. |
| **17 January - 22 January** | Knowledge representation: Level of representation, Knowledge representation schemes, Formal logic, Inference Engine, Semantic net, Frame, Scripts. |
| **24 January - 31 January** | Test of Unit 4  Revision |

**Lesson Plan**

**Class – M.Sc (Computer Sc.) 1st Sem**

**Faculty – Dr. Subita Kumari**

**Subject -** **Discrete Mathematics**

**Paper Code- 16MCS21C1**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | Sets, Subsets, Equal Sets Universal Sets, Finite and Infinite Sets |
| 15th Nov to 20th Nov | Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set, Simple Applications. |
| 22th Nov to 27th Nov | Properties of Relations, Equivalence Relation, Partial Order Relation |
| 29th Nov to 4th Dec | Function: Domain and Range, Onto, Into and One to One Functions |
| 6th Dec to 11th Dec | Composite and Inverse Functions.  **Assignment of unit 1** |
| 6th Dec to 11th Dec | Proposition logic  **Test of Unit 1** |
| 13th Dec to 18th Dec | Basic logic, Logical Connectives, truth tables |
| 20th Dec to 24th Dec | Tautologies, contradiction, Logical implication, Logical equivalence, Normal forms, Theory of Inference and deduction |
| 27th Dec to 1th Jan 2022 | Predicates and quantifiers. Mathematical Induction. |
| 3rd Jan to 8th Jan | **Assignment and test of unit 2.** |
| 10th Jan to 15th Jan | Matrices: Definition, Types of Matrices, Addition, Subtraction, Scalar Multiplication and Multiplication of Matrices |
| 17th Jan to 22th Jan | Adjoint and Inverse of a matrix. |
| 24th Jan to 29th Jan | Determinants: Definition, Minors, Cofactors, Properties of Determinants, Applications of determinants in finding area of triangle |
| 31st Jan to 5th Feb | Solving a system of linear equations. **Test of Unit III** |
| 7th Feb to 12th Feb | Introduction to defining language, Kleene Closure, Arithmetic expressions, Chomsky Hierarchy, Regular expressions. |
| 14th Feb to 19th Feb | Conversion of regular expression to Finite Automata, NFA, DFA, Conversion of NFA to DFA, FA with output: |
| 21st Feb to 26th Feb | Moore machine, Mealy machine.  **Test on Unit - 4** |
| 27th Feb Onwards | **Revision** |

**Lesson Plan**

**Class – B.Sc (Pass) 5th Sem**

**Faculty – Dr. Subita Kumari**

**Subject -** **DBMS**

**Lesson Plan Duration - From Oct. 2021 to January 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **Week 1, 7 Oct - 9Oct** | Basic Concepts – Data, Information, Records and files. Traditional file – based Systems-File Based Approach. |
| **Week 2, 14 Oct-16 Oct** | Limitations of File Based Approach, Advantages and Disadvantages of DBMS. |
| **Week 3, 21 Oct - 23 Oct** | Database Approach-Characteristics of Database Approach, Database Management System (DBMS),Components of DBMS Environment, DBMS Functions. |
| **Week 4, 28 Oct -30 Oct** | Classification of Database Management System. Roles in the Database Environment - Data and Database Administrator. |
| **4 November-6 November** | **Diwali Break** |
| **Week 5, 11 Nov-13 Nov** | Centralized and Client Server architecture to DBMS. Database System Architecture – Three Levels of Architecture, External, Conceptual and Internal Levels, Schemas, Mappings and Instances. |
| **Week 6, 18 Nov -20 Nov** | Data Independence – Logical and Physical Data Independence. Data Models: Records- based Data Models, Object-based Data Models, Physical Data Models and Conceptual Modeling. Hierarchical, network and relational model |
| **Week 7, 25 Nov – 27 Nov** | Assignment and Test of (unit 1 & unit 2) |
| **Week 8, 2 Dec – 4 Dec** | Entity-Relationship Model – Entity Types, Entity Sets, Attributes and keys, Relationship, relationship sets, Role name & recursive relationship and structural constraints, Conceptual design using E-R Diagrams. |
| **Week 9, 9 Dec – 11 Dec** | Relational Data Model:-Introduction, Properties of Relations, Keys, Integrity Constraints over Relations, Views. |
| **Week 10, 16 Dec – 18 Dec** | Relational Database Design: Functional Dependencies, Normalisation. |
| **Week 11, 23 Dec – 25 Dec** | Normalisation Form 1st to 3rd ,BCNF |
| **Week 12, 30 Dec – 1 Jan** | Lossless Join and Dependency preserving decomposition. |
| **Week 13, 6Jan – 8 Jan** | SQL: Types & components of SQL, Data Definition and data types, Data definition commands, Data manipulation commands, Data Control Commands Inbuilt Date, String functions. Commit, Rollback, Save points. |
| **Week 14, 13 Jan – 15 Jan** | **Views:** Introduction, Advantages of creating views, Features, Destroying/ Altering table & Views. |
| **Week 15, 20 Jan – 22 Jan** | Specifying Constraints(Primary Constraint,. Foreign key, Unique, Not Null) in SQL, Schema, Basic Queries in SQL, Insert, Delete and Update operations. |
| **Week 16, 27Jan – 31 Jan** | **Test of unit 3 and 4 and revision** |

**Lesson Plan**

**Class – MSC 3RD SEM**

**Faculty – Ms. Monica Rathee**

**Subject –VISUAL PROGRAMMING**

**Paper Code- 17MCS23C2**

**Lesson Plan Duration - From October2021 to January 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **1Oct. to 9 Oct. 2021** | VB IDE, An overview of VB project types, VB as event-driven & object-based language, Default Controls in Tool Box: Label Box, Text Box, |
| **11 Oct. to 16 Oct. 2021** | Command Button, List Box, Combo Box, Picture & Image Box, Shape box, Timer, Option button, Check Box & Frames. |
| **18 Oct. to 23 Oct. 2021** | Variables, Constants, Data types, Variable Scope, Arithmetic operations, String Operations, |
| **25 Oct. to 30 Oct. 2021** | Built-in functions, I/O in VB, Branching & Looping statements, Procedures, Arrays, Collection. |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8 Nov. to 13 Nov.2021** | : Working with multiple forms; Loading, Showing and Hiding forms; Creating Forms at Run Time. **Assignment and test of Unit -1** |
| **15 Nov. to 20 Nov.2021** | Introduction to MDI forms. Dialog Boxes: Types of Dialog boxes, Working with Common Dialog Box |
| **22 Nov. to 27 Nov.2021** | Introduction to Menu Editor, Adding Menus and its manipulation: Modifying and Deleting Menu Items, Creating Submenus. |
| **29 Nov. to 4 Dec. 2021** | Introduction: Scroll Bar, Slider Control, Tree View, List View, Rich Text Box Control. |
| **6 Dec. to 11 Dec. 2021** | , Toolbar, Status Bar, Progress Bar, Cool bar, Image List, Tab Strip **Assignment and test of Unit -2** |
| **13 Dec. to 18 Dec. 2021** | Working with Graphics: Using Paint, Line, Circle, RGB and other related method, manipulating graphics. |
| **20 Dec. to 25Dec. 2021** | File Handling in VB: Creating a File, Saving and Opening files in Rich text box and Picture box, Handling file operations. **Assignment and Test of Unit-3** |
| **27 Dec. to 31Dec. 2021** | The Data Controls and Data-Bound Controls; Using DAO, RDO, ADO. |
| **1 Jan. to 8 Jan. 2022** | ActiveX controls: Creating & Using ActiveX Controls, Creating |
| **10 Jan. to 15 Jan. 2022** | & Using ActiveX Documents, ActiveX EXE vs. ActiveX DLL. |
| **17 Jan. to 22 Jan. 2022** | Presentation |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

**Lesson Plan**

**Class – Bsc Maths Hons 1st Sem**

**Faculty – Mrs Monica Rathee**

**Subject –Computer Fundamentals and MS-OFFICE**

**Paper Code- BHM 116**

**Lesson Plan Duration - From October 2021 to January 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **1 Oct. to 9 Oct. 2021** | Fundamentals of Computer: Model of a digital computer, Functioning of a digital computer, Historical evolution of computers, classification of computers, Human being vs computer, |
| **11 Oct. to 16 Oct. 2021** | , Input / Output devices, Storage devices, Memory and mass storage devices, characteristics of memory systems, types of memory |
| **18 Oct. to 23 Oct. 2021** | RAM, ROM, concepts of Virtual and Cache memory, Types of software, Application and system software and its functions, time sharing, multiprocessing, Applications of Computer.  **Assignment and Test of Unit-1** |
| **25 Oct. to 30 Oct. 2021** | Introduction to Windows: Types of windows, windows as an operating system, |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8 Nov. to 13 Nov.2021** | windows explorer, using clipboard, using paintbrush, control panel, installing a printer. |
| **15 Nov. to 20 Nov.2021** | MS Power Point: Introduction, Power point slide creation, |
| **22 Nov. to 27 Nov.2021** | Slide-show, Adding graphics,**Assignment and test of Unit -2** |
| **29 Nov. to 4 Dec. 2021** | Formatting Customizing and Printing.. |
| **6 Dec. to 11 Dec. 2021** | MS-Word: Introduction to MS-Word, Standard Toolbar, Word Wrap, |
| **13 Dec. to 18 Dec. 2021** | Text formatting, Indents, Tabs, Formatting paragraphs, **Assignment and Test of Unit-3** |
| **20 Dec. to 25Dec. 2021** | Applying Effects to text, Applying animation to text. |
| **27 Dec. to 31Dec. 2021** | MS Excel: Introduction to MS Excel, Working with Toolbars, Formatting, Formulas, |
| **1 Jan. to 8 Jan. 2022** | Macros and other additional functions. |
| **10 Jan. to 15 Jan. 2022** | **Test of Unit-4, Revision** |
| **17 Jan. to 22 Jan. 2022** | **Presentation** |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

**NAME OF EXTENSION LECTURER: LALITA YADAV**

**CLASS AND SECTION: B.COM(H)-3rd Sem**

**SUBJECT: Basics of Information Technology**

**LESSION PLAN:2021-2022 SESSION**

|  |  |
| --- | --- |
| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 Oct - 9Oct** | Essentials of Computers: Concept of data, information and data processing, Levels or type of information, Uses of information, Business data Processing Cycle, Methods of data processing, Application of Electronic data processing. |
| **Week 2, 11 Oct-16 Oct** | Memory and Mass Storage Devices: Introduction of Memory System, Types of Memory-Primary and Secondary Memory, RAM and ROM |
| **Week 3, 18 Oct - 23 Oct** | Types of Secondary Storage Devices; Software Concepts: Types of Software and their role, System Languages and Translators, Functions and Types an Operating System. |
| **Week 4, 25 Oct -30 Oct** | , Data Communications: Basic elements of a Communication System, Forms of Data Transmission, |
| **Week 5, 8 Nov-13 Nov** | Data transmission speed, Modes of Data Transmission:Analog and Digital data transmissions, |
|  |  |
|  |  |
| **Week 8, 29 Nov – 4 Dec** | Data Transmission Media; Wire Cables, Microwave, Fiber-optics, Communication Satellites. Emerging Trends in IT: Electronic Commerce(E-Commerce), Types of E-Commerce, Advantages and Disadvantages of E-commerce, |
| **Week 9, 6 Dec – 11 Dec** | Application of E-commerce, process in e- commerce, Types of an Electronic Payment System, Security issues in E-commerce, Security Schemes; Electronic data Interchange (EDI); |
| **Week 10, 13 Dec – 18 Dec** | Mobile communication, Bluetooth Communication, Infrared communication, Smart Card. |
| **Week 11, 20 Dec – 25 Dec** | Computer Networks: Introduction to Computer Network, Types of Network; Local Area Network, Wide Area Network, Types of Public and Private Network, Network Topology; Internet and its Application, History of Internet, Benefits of Internet, |
| **Week 12, 27 Dec – 1 Jan** | ISP, Internet Accounts, Internet Addressing, Information Technology: Impact of IT on Business environment; Applications of IT. Multimedia: Concept of Multimedia, Multimedia Components, Multimedia Applications. |
| **Week 13, 3 Jan – 8 Jan** | Presentation with Power- Point: Features of Power-point, Creating presentation the easy way, Working with different views, working with graphics in Power Point, Sound effects and Animations effects, Printing in Power-point. |
| **Week 14, 10 Jan – 15 Jan** | Introduction to Accounting Packages-Tally: Features of Tally, Preparation of Vouchers, Salary statement, Maintaining of Inventory records, Maintenance of Accounting Books and final Accounts, Generating and Printing reports. |
| **Week 15, 17 Jan – 22 Jan** | **Revision** |
| **Week 16, 24 Jan – 31 Jan** | **Test** |

**Lesson Plan**

**Class – APGDCA 1st Sem**

**Faculty – Ms. Lalita Yadav**

**Subject -** **FOUNDATION COURSE IN IT & MS-OFFICE 2000**

**PAPER CODE : APGDCA-101**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | Historical evolution of computers, Classification of computers, Model of a digital computer, functioning of a digital computer, Why computers are useful? |
| 15th Nov to 20th Nov | Human being Vs computer, Computer as a tool, Applications of computers (desktop publishing, sports, design and manufacturing, research and design, military, robotics, planning & management, marketing, medicine & health care, arts, communications). |
| 22th Nov to 27th Nov | Number systems and Boolean Algebra : What is Number system, necessity of binary number system, binary, octal and hexadecimal number system, inter-conversion of numbers, binary arithmetic. |
| 29th Nov to 4th Dec | Input/Output Devices : Punched cards, card-readers, key-punching machines, keyboards, mouse, joysticks, trackballs, digitizer, voice-recognition, optical-recognition, scanners, terminals, point-of-sale terminals, machine-vision systems. |
| 6th Dec to 11th Dec | Hard- copy devices : Print quality, Impact printers - DMPs, Daisy-wheel printers, Line-printers, Drum printers, Chain printers; Non-impact printers - Inkjet, Laser, Thermal, LED; Plotters. Soft-copy devices : monitors, video-standards (VGA and SVGA). Memory & Mass Storage Devices: |
| 6th Dec to 11th Dec | Characteristics of memory systems, types of memory, RAM, ROM, magnetic disks - floppy disk, hard-disk; optical disks - CD, CD-I, CD-ROM; Magnetic tapes; |
| 13th Dec to 18th Dec | Concepts of Virtual and Cache memory. Revision |
| 20th Dec to 24th Dec | Software Concepts : Introduction, types of software - System & Application software; Language translators - Compiler, Interpreter, Assembler; |
| 27th Dec to 1th Jan 2022 | Operating system - Characteristics, bootstrapping, types of operating, operating system as a resource manager; BIOS; |
| 3rd Jan to 8th Jan | Assignment and test . |
| 10th Jan to 15th Jan | System utilities - Editor, Loader, Linker, File Manager. Concept of GUI, GUI standards. Social Concerns : Positive and Negative Impacts of Computer Technology, Viruses and their types, |
| 17th Jan to 22th Jan | • MS-Word : Introduction to MS-Word, Standard Toolbar, WordWrap, Text formatting, Formatting Paragraphs, Aplying Effects to Text, Applying Animation to Text. • |
| 24th Jan to 29th Jan | MS-Excel : Introduction to MS-Excel, Working with Toolbars, Formatting, Formulas, |
| 31st Jan to 5th Feb | Data Management, Graphs & Chart, Macros, and other additional Functions. • |
| 7th Feb to 12th Feb | MS-PowerPoint : Introduction, PowerPoint Slide Creation, Slide-show, |
| 14th Febl to 19th Feb | Adding Graphics, Formatting, Customizing and Printing. |
| 21th Feb to 26th Feb | Revision and Test |
| 26th Feb Onwards | Revision and Test |

**Name of Guest Lecturer: Ms. Shalu Rani**

**Class and Section: BCA 5th Sem**

**Subject: Visual Basic**

**Paper Code: BCA 304 (Sec-A)**

**Lesson Plan**: **Oct 2021 To Jan 2022**

| Week 1: **1 Oct. to 9 Oct. 2021** |
| --- |
| Introduction to VB: Visual & non-visual programming, Procedural, Object-oriented and event driven programming languages |
| Week 2: **11 Oct. to 16 Oct. 2021** |
| The VB environment: Menu bar, Toolbar, Project explorer, Toolbox, Properties window, Form designer, Form layout, Immediate window. |
| Week 3: **18 Oct. to 23 Oct. 2021** |
| Visual Development and Event Driven programming **Assignment and Test of Unit-1** |
| Week 4: **25 Oct. to 30 Oct. 2021** |
| Basics of Programming: Variables: Declaring variables, Types of variables, converting variables types, User-defined data types, Forcing variable declaration, Scope & lifetime of variables. |
| Week 5: **1 Nov. to 6 Nov. 2021** |
| **Diwali Holidays** |
| **Week 6: 8 Nov. to 13 Nov.2021** |
| Constants: Named & intrinsic. Operators: Arithmetic, Relational & Logical operators |
| Week 7: **15 Nov. to 20 Nov.2021** |
| I/O in VB: Various controls for I/O in VB, Message box, Input Box, Print statement **Assignment and test of Unit -2** |
| Week 8: **22 Nov. to 27 Nov.2021** |
| Programming with VB: Decisions and conditions: If statement, If-then-else, Select-case. Looping statements: Do-loops, For-next, While-wend, Exit statement. Nested control structures. |
| Week 9: **29 Nov. to 4 Dec. 2021** |
| Arrays: Declaring and using arrays, one-dimensional and multi-dimensional arrays, Static & dynamic arrays, Arrays of array |
| Week 10: **6 Dec. to 11 Dec. 2021** |
| Collections: Adding, Removing, Counting, returning items in a collection, Processing a collection **Assignment and Test of Unit-3** |
| Week 11: **13 Dec. to 18 Dec. 2021** |
| Programming with VB: Procedures: General & event procedures, Subroutines, Functions, calling procedures, Arguments- passing mechanisms, Optional arguments, Named arguments, |
| Week 12**: 20 Dec. to 25 Dec. 2021** |
| Functions returning custom data types, Functions returning arrays |
| Week 13**: 27 Dec. to 1 Jan 2022** |
| Working with forms and menus: Adding multiple forms in VB, Hiding & showing forms, Load & unload statements |
| Week 14**: 3 Jan. to 8 Jan. 2022** |
| creating menu, submenu, popup menus, Activate & deactivate events, Form-load event, menu designing in VB Simple programs in VB. |
| Week 15: **10 Jan. to 15 Jan. 2022** |
| **Test of Unit-4, Revision** |
| Week 16: **17 Jan. to 22 Jan. 2022** |
| **Presentation** |
| Week 17: **22 Jan. to 29 Jan. 2022** |
| **Test and Query discussion** |

**Name of Guest Lecturer: Ms. Shalu Rani**

**Class and Section: BCA 5th Sem**

**Subject: Management Information System**

**Paper Code: BCA 301 (Sec-B)**

**Lesson Plan**: **Oct 2021 to Jan 2022**

| Week 1: **1 Oct. to 9 Oct. 2021** |
| --- |
| Introduction to system and Basic System Concepts, Types of Systems, The Systems Approach |
| Week 2: **11 Oct. to 16 Oct. 2021** |
| Information System: Definition & Characteristics, Types of information |
| Week 3: **18 Oct. to 23 Oct. 2021** |
| Role of Information in Decision-Making |
| Week 4: **25 Oct. to 30 Oct. 2021** |
| Sub-Systems of an Information system: EDP and MIS management levels, EDP/MIS/DSS. |
| Week 5: **1 Nov. to 6 Nov. 2021** |
| **Diwali Holidays** |
| **Week 6: 8 Nov. to 13 Nov.2021** |
| **Assignment and Test of Unit-1**  An overview of Management Information System |
| Week 7: **15 Nov. to 20 Nov.2021** |
| Definition & Characteristics, Components of MIS, Frame Work for Understanding MIS |
| Week 8: **22 Nov. to 27 Nov.2021** |
| Information requirements & Levels of Management |
| Week 9: **29 Nov. to 4 Dec. 2021** |
| Simon's Model of decision-Making, Structured Vs Un-structured decisions, Formal vs. Informal systems. **Assignment and Test of Unit-2** |
| Week 10: **6 Dec. to 11 Dec. 2021** |
| Developing Information Systems, Analysis & Design of Information Systems, Implementation & Evaluation |
| Week 11: **13 Dec. to 18 Dec. 2021** |
| Pitfalls in MIS Development**,** Functional MIS, |
| Week 12**: 20 Dec. to 25 Dec. 2021** |
| **Assignment and Test of Unit-3**  A Study of Personnel, Financial and production MIS, Introduction to e-business systems |
| Week 13**: 27 Dec. to 1 Jan 2022** |
| ecommerce – technologies, applications, A Study of Personnel, Financial and production MIS, |
| Week 14**: 3 Jan. to 8 Jan. 2022** |
| Introduction to E-business systems, ecommerce – technologies, applications, |
| Week 15: **10 Jan. to 15 Jan. 2022** |
| Decision support systems |
| Week 16: **17 Jan. to 22 Jan. 2022** |
| support systems for planning, control and decision-making **Assignment and Test of Unit-4** |
| Week 17: **22 Jan. to 29 Jan. 2022** |
| **Test and Query discussion and Presentation** |

**Name of Guest Lecturer: Ms. Shalu Rani**

**Class and Section: BCA 5th Sem**

**Subject: Practical Software Lab**

**Paper Code: BCA 305**

Practical Syllabus will be met as per Schedule of Concerned theory paper i.e. based on Paper 304.

**Lesson Plan BCA 1st sem**

**MATHEMATICS**

**PAPER CODE- BCA 103**

**Extension Lecturer- ARCHANA CS Department, GPGCW, Rohtak.**

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| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | SETS:  Sets, Subsets, Equal Sets Universal Sets, Finite and Infinite Sets, Operation on Sets, |
| **11 Oct-16 Oct** | Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set |
| **18 Oct - 23 Oct** | Simple Applications. |
| **25 Oct -30 Oct** | Definition, Minors, Cofactors, Properties of Determinants, Applications of determinants in finding area of triangle, |
| **1 Nov-6 Nov** | Solving a system of linear equations.  Test and assignment |
| **8 Nov-13 Nov** | MATRICES:  Definition, Types of Matrices, Addition, |
| **15 Nov -20 Nov** | Subtraction, Scalar Multiplication and Multiplication of Matrices |
| **22 Nov – 27 Nov** | Adjoint , Inverse, solving system of linear equation Cramer’s Rule. |
| **29 Nov – 4 Dec** | DIFFERENTIATION:  Derivative of a function, Derivatives of Sum, Differences, Product & Quotient of functions, |
| **6 Dec – 11 Dec** | Derivatives of polynomial, trigonometric, exponential, logarithmic, |
| **13 Dec – 18 Dec** | inverse trigonometric and implicit functions, Logarithmic Differentiation, Chain Rule and  differentiation by substitution.  Test and assignment |
| **20 Dec – 25 Dec** | INTEGRATION:  Indefinite Integrals, Methods of Integration by Substitution, |
| **27 Dec – 1 Jan** | By Parts,  Partial Fractions, Integration of Algebraic and Transcendental Functions, Reduction Formulae for simple and Trigonometric Functions, Definite Integral as Limit of Sum |
| **3 Jan – 8 Jan** | Fundamental Theorem of Integral Calculus, Evaluation of definite integrals by substitution using properties of definite integral  Test and assignment |
| **10 Jan – 15 Jan** | Properties of Relations, Equivalence Relation,  Partial Order Relation Function: Domain and Range, Onto, Into and One to One Functions |
| **17 Jan – 22 Jan** | Composite and Inverse Functions.  LIMITS & CONTINUITY:  Limit at a Point, Properties of Limit, Computation of Limits of Various Types of Functions, Continuity of a function at a Point |
| **24 Jan – 31 Jan** | Continuity Over an Interval,Sum, product and quotient of continuous functions, Intermediate Value Theorem, Type of Discontinuities  Test |

**Lesson Plan BCom. 1st Sem**

Basics of Computer-I

**PAPER CODE-** 1.06  
**Extension Lecturer- ARCHANA CS Department,GPGCW, Rohtak.**

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| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Introduction to Computers: Definition of Computer; Components of Computer; Characteristics of Computers |
| **11 Oct-16 Oct** | History evolution of Computers; Generation of computers |
| **18 Oct - 23 Oct** | Classification of Computers- According to Purpose, According to Technology , According to Size and Storage Capacity |
| **25 Oct -30 Oct** | Human being VS Computer; Difference between Computer and Calculator. |
| **1 Nov-6 Nov** | Input Devices: Mouse, Keyboard  Test and assignment |
| **8 Nov-13 Nov** | Light pen, Track Ball, Joystick, MICR, Optical Mark reader and Optical Character Reader Scanners |
| **15 Nov -20 Nov** | Voice system, Web Camera. Output Devices: Hard Copy Output Devices |
| **22 Nov – 27 Nov** | Line Printers, Character Printers, Chain Printers, Dot-matrix Printers. |
| **29 Nov – 4 Dec** | Daisy Wheel Printer, Laser Printers, Ink Jet Printers; Plotters |
| **6 Dec – 11 Dec** | Soft Copy device –Monitor, Sound Cards and speakers  Test |
| **13 Dec – 18 Dec** | MS- Word: Fundamentals of MS-Word, Features of MS-Word |
| **20 Dec – 25 Dec** | Menus, Formatting and Standard Toolbars, Ruler, Scroll Bar, Creating, Editing |
| **27 Dec – 1 Jan** | Saving, export and import files, inserting and copying the files, Working with frames, Paragraph formatting |
| **3 Jan – 8 Jan** | Columns, Pictures, Tables, Macros and Mail Merge.  Test and assignment |
| **10 Jan – 15 Jan** | Memory and Mass Storage Devices: Characteristics of Memory Systems; Memory Hierarchy |
| **17 Jan – 22 Jan** | Types of Primary Memory; RAM and ROM; Secondary and Back-up; Magnetic Disks |
| **24 Jan – 31 Jan** | Characteristics and classification of Magnetic Disks; Optical Disks; Magnetic Taps.  Test |

**Lesson Plans**

**BCA 3rd Year**

**COMPUTER GRAPHICS**

**PAPER CODE- BCA 302**

**Extension Lecturer- JyotiCS Department, GPGCW, Rohtak.**

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| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Introduction to computer graphics, Basics of Graphics systems, Application areas of Computer Graphics, overview of graphics systems, |
| **11 Oct-16 Oct** | video-display devices |
| **18 Oct -23 Oct** | raster-scan systems, random scan systems, graphics monitors and workstations and input devices |
| **25 Oct -30 Oct** | Output Primitives: Points and lines, line drawing algorithm: DDA, Bresenham’s line Drawing Algorithm |
| **1 Nov-6 Nov** | **Diwali Vacations** |
| **8 Nov-13 Nov** | Mid Point Circle Drawing Algorithm and Ellipse drawing algorithm. |
| **15 Nov -20 Nov** | Filled area primitives: Scan line polygon fill algorithm, boundary fill, flood fill algorithms. |
| **22 Nov – 27 Nov** | 2-D Geometrical Transforms: Translation, scaling, rotation, reflection and shear transformations, matrix representations |
| **29 Nov – 4 Dec** | Homogeneous Coordinates, Composite Transformation,Transformations between coordinate systems |
| **6 Dec – 11 Dec** | 3-D Geometric Transformations: Translation, rotation, scaling, reflection and shear transformations,composite transformations |
| **13 Dec – 18 Dec** | 2-D Viewing: The viewing pipeline, viewing coordinate reference frame, window to view-port coordinate transformation, viewing functions |
| **20 Dec – 25 Dec** | Cohen-Sutherland and Cyrus-beck line clipping algorithms, |
| **27 Dec – 1 Jan** | Sutherland –Hodgeman polygon clipping algorithm. |
| **3 Jan – 8 Jan** | 3-D Object Representation: Polygon surfaces, quadric surfaces, Spline representation, |
| **10 Jan – 15 Jan** | Hermite curve, Bezier curve |
| **17 Jan – 22 Jan** | B-Spline curves, Bezier and B-Spline surfaces. |
| **24 Jan – 31 Jan** | Basicillumination models, polygon-rendering methods. |

**B.Sc. 3rd Sem**

**Object-Oriented Design and C++**

**PAPER CODE- 3.2**

**Extension Lecturer- Dr.Jyoti CS Department, GPGCW, Rohtak.**

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| **Time Period** | **Topics** |
| **1 Oct - 9Oct** | Introduction to Programming C++: Object-Oriented Features of C++, data types in C++ |
| **11 Oct-16 Oct** | variables, operators, flow control, recursion, array, Pointers and their manipulation, strings, structures |
| **18 Oct - 23 Oct** | Class and Objects, Data Hiding & Encapsulation, Data members and Member functions |
| **25 Oct -30 Oct** | Inline Functions, Static Data Members and Member Functions, Friend Functions, |
| **1 Nov-6 Nov** | **Diwali Vacations** |
| **8 Nov-13 Nov** | Pre-processor Directives, Namespace, Comparing C with C++. |
| **15 Nov -20 Nov** | Constructors & Destructors: Roles and types of Constructors, Constructor Overloading, Roles of Destructors, |
| **22 Nov – 27 Nov** | Dynamic Memory Allocation: Pointers and their Manipulation, new and delete Operators ‘this’ Pointer |
| **29 Nov – 4 Dec** | Console I/O: Formatted and Unformatted I/O, Manipulators. |
| **6 Dec – 11 Dec** | Compile-Time Polymorphism: Unary and Binary Operators overloading through Member Functions and Friend Functions |
| **13 Dec – 18 Dec** | Function Overloading, virtual functions, abstract class, virtual class |
| **20 Dec – 25 Dec** | Inheritance: Types of Derivations, Forms of Inheritance, Roles of Constructors and Destructors in Inheritance. |
| **27 Dec – 1 Jan** | Object oriented concepts: Class, Object, Methods, Message Passing, Abstraction, Inheritance |
| **3 Jan – 8 Jan** | Polymorphism, Generosity, Overriding, Abstract Class & methods |
| **10 Jan – 15 Jan** | Generalization, Aggregation, Associations. |
| **17 Jan – 22 Jan** | Object modelling techniques: Introduction to object model, |
| **24 Jan – 31 Jan** | Dynamic model, Functional Model. Strengths & Weakness of all models. |

**Lesson Plan**

**Class – BCA1stSem**

**Faculty – Ms. Vandna**

**Subject –Computer & Programming Fundamental**

**Paper Code- BCA101**

**Lesson Plan Duration - From October2021 to January 2022**

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| --- | --- |
| **Time Period** | **Topics** |
| **1Oct. to 9 Oct. 2021** | Computer Fundamentals: Generations of Computers, Definition, Block Diagram along withits components, characteristics & classification of computers, Limitations of Computers, Human-Being VS Computer, Applications of computers in various fields. |
| **11 Oct. to 16 Oct. 2021** | Memory: Concept of primary & secondary memory, RAM, ROM, types of ROM |
| **18 Oct. to 23 Oct. 2021** | Cache Memory, flash memory, Secondary storage devices: Sequential & direct access devices |
| **25 Oct. to 30 Oct. 2021** | Magnetic tape, magnetic disk, optical disks i.e. CD, DVD, virtual memory.  **Assignment of Unit-1** |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8Nov. to 13 Nov.2021** | Computer hardware & software: I/O devices |
| **15Nov. to 20 Nov.2021** | definition of software, relationship between hardware and software, types of software. |
| **22Nov. to 27 Nov.2021** | Overview of operating system: Definition, functions of operating system |
| **29 Nov. to 4 Dec. 2021** | Concept of multiprogramming, multitasking, multithreading, multiprocessing, time-sharing, real time, |
| **6 Dec. to 11 Dec. 2021** | Computer Virus: Definition, types of viruses, Characteristics of viruses, anti-virus software.  **Assignment and Test of Unit -2** |
| **13 Dec. to 18 Dec. 2021** | Computer Languages: Analogy with natural language, machine language, assembly language, high-level languages, forth generation languages, compiler, interpreter, assembler, Linker, |
| **20 Dec. to 25Dec. 2021** | Loader , characteristics of a good programming language, Planning the Computer Program: Concept of problem solving, Problem definition, Program design, Debugging, Types of errors,documentation |
| **27 Dec. to 31Dec. 2021** | Structured programming concepts, Programming methodologies viz. top-down and bottomup programming, Advantages and disadvantages of Structured programming.  **Assignment and Test of Unit-3** |
| **1 Jan. to 8 Jan. 2022** | Overview of Networking: An introduction to computer networking, Network types (LAN, WAN, MAN), Network topologies, Modes of data transmission, Forms of data transmission, Transmission channels(media), Introduction to internet and its uses, |
| **10 Jan. to 15 Jan. 2022** | Applications of internet, Hardware and Software requirements for internet, Intranet, Applications of internet |
| **17 Jan. to 22 Jan. 2022** | Presentation |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

**Class – B.Sc.1stSem**

**Faculty – Ms. Vandna**

**Subject –Computer Fundamental and MS-Office**

**Paper Code- 1.1**

**Lesson Plan Duration - From October 2021 to January 2022**

|  |  |
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| **Time Period** | **Topics** |
| **4Oct. to 6 Oct. 2021** | Introduction : Historical evolution of computers, Classification of computers, Block Diagram along its components and characteristics, Usefulness of Computers. Human being Vs computerComputer as a tool, Applications of computer |
| **11 Oct. to 13Oct. 2021** | Number Systems: Definition of Number system, necessity of binary number system, binary, decima l, octal and hexadecimal number system, interconversion of numbers, Representation of integers, fixed and floating points |
| **18 Oct. to 20Oct. 2021** | BCD codes, Error detecting and correcting codes, character Representation-ASCII,Binary Arithmetic  **Assignment and Test of Unit-1** |
| **25 Oct. to 27 Oct. 2021** | Input/Output Devices: Keyboards, mouse, joysticks, trackballs, digitizer, voice-recognition, optical-recognition,  scanners, terminals, point-of-sale terminals, machine-vision systems. Hard-copy devices: Impact printers |
| **1 Nov. to 3Nov. 2021** | **Diwali Holidays** |
| **8Nov. to 10 Nov.2021** | DMPsdevices: Impact printers - DMPs, Daisy-wheel printers, Line-printers. Non-impact printers - Inkjet, |
| **15Nov. to 17 Nov.2021** | Memory & Mass Storage Devices: Characteristics of memory systems, types of memory, RAM, ROM, magnetic disks - floppy disk, hard-disk; |
| **22Nov. to 24 Nov.2021** | optical disks - CD, CD-I, CD-ROM; Magnetic tapes; Concepts of Virtual and Cache memory  **Assignment and Test of Unit -2** |
| **29 Nov. to 1 Dec. 2021** | Software Concepts: Introduction, types of software - System & Application software; Language translators - Compiler, Interpreter, Assembler |
| **6 Dec. to 8 Dec. 2021** | Operating system - Characteristics, bootstrapping, types of operating, operating system as a resource manager System |
| **13 Dec. to 15 Dec. 2021** | BIOS; System utilities - Editor, Loader, Linker, File Manager. Concept of GUI, GUI standards. Introduction to Algorithm & Flowcharts, Advantages &Disadvantages.  **Assignment and Test of Unit-3** |
| **20 Dec. to 22Dec. 2021** | MS-OFFICE:MS-Word :- Creating a document, font operation, bullet and numbering, find & replace, hyper linking, mathematical operation, Create table and flow chart, Macro, Mail merge, Correcting grammar, protect files, difference between doc and docx |
| **27 Dec. to 29Dec. 2021** | MS-PowerPoint :- Creating single and multiple slide, Animation, manual and automatic slide show, hyper linking, DFD, shape and style. |
| **3 Jan. to 5 Jan. 2022** | MS-Excel:- Create sheet and rename sheet, table and operation, cells operation, hyper linking, Function(mathematic, logical), sort and data tools, protection(sheet, workbook |
| **10 Jan. to 12 Jan. 2022** | **Test of Unit-4, Revision** |
| **17 Jan. to 19 Jan. 2022** | **Presentation** |
| **24Jan. to 31 Jan. 2022** | **Test and Query discussion** |

**Lesson Plan**

**Class – APGDCA 1st Sem**

**Faculty – Ms. Sonia**

**Subject -** **COMPUTER NETWORKING & MULTIMEDIA**

**Paper Code- A PGDCA - 102**

**Lesson Plan Duration - From Nov. 2021 to February 2022**

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| **Time Period** | **Topics** |
| 12th Nov to 14th Nov 2021 | Introduction to Computer Network, Why Computer Network ? Key Issues for Computer Network, Types of Network |
| 15th Nov to 20th Nov | LAN, WAN and MAN; Criteria for Classification of Computer Network, LANs : Hardware requirements for LAN, Transmission Channel for LAN |
| 22th Nov to 27th Nov | Properties of Relations, Equivalence Relation, Partial Order Relation Network Interface Unit, Servers & Workstations, LAN Software. Introduction to Ethernet, |
| 29th Nov to 4th Dec | Token Ring : Basics and Working Cables, ring speed. WAN : Transmission Channel for LAN, hardware requirements : Bridges |
| 6th Dec to 11th Dec | , Routers, Gateways. Private Networks, Public Networks : ISDN, PSTN, PSDN, Value Added Networks.  **Assignment of unit 1** |
| 6th Dec to 11th Dec | Connecting PCs : Simple switches, Printer sharing buffers, Zero-slot LANs, Media sharing LANs, **Test of Unit 1** |
| 13th Dec to 18th Dec | Printer Servers, Client and Servers, Interface Cards, Media Access Control, Operating System features, OSI Model, TCP/IP Model, Data encoding & Communication Techniques |
| 20th Dec to 24th Dec | Multiplexing and Communication Hardware Network topology, Network Protocols, Applications of Computer Network. Distributed data rocessing, Teletext and Videotext Networks |
| 27th Dec to 1th Jan 2022 | Communication Channels : Wire cables (Telegraph, telephone, twisted-pair, co-axial), Microwave, Fibre-optics, Communication satellites; Channel sharing, data-transmission |
| 3rd Jan to 8th Jan | **Assignment and test of unit 2.** |
| 10th Jan to 15th Jan | Introduction to multimedia technology - Computers, Communication and Entertainment; Framework for multimedia systems; M/M devices, |
| 17th Jan to 22th Jan | presentation devices and the user interface; M/M presentation and authoring; Digital representation of sound and transmission |
| 24th Jan to 29th Jan | brief survey of speech recognition and generation; digital video and image compression; JPEG image compression standards |
| 31st Jan to 5th Feb | MPEG motion video compression; DVI technology; time-based media representation and delivery. Unit **Test of Unit III** |
| 7th Feb to 12th Feb | Audio Compression and Decompression, Audio Synthesis, MIDI, Speech Recognition & Synthesis, Video Capturing, Compression & Decompression, Real-time 3D, LANs and Multimedia. |
| 14th Febl to 19th Feb | Applications of M/M; Intelligent M/M system, Desktop Virtual Reality (VR), VR operating System, Virtual environment displays and orientation tracking |
| 21th Feb to 26th Feb | visually coupled system requirements; intelligent VR software systems. Applications of environments in various fields viz. Entertainment, manufacturing, business, education, etc. Test on Unit - 4 |
| 26th Feb Onwards | **Revision** |

**Lesson Plan**

**Class – M.sc 3rd Sem**

**Faculty – Ms. Sonia**

**Subject –**OPERATING SYSTEM AND UNIX

**Paper Code-** 17MCS23C1

**Lesson Plan Duration - From October 2021 to January 2022**

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| **Time Period** | **Topics** |
| **1Oct. to 9 Oct. 2021** | Operating systems overview: Operating systems as an extended machine & resource manager, Operating systems classification; |
| **11 Oct. to 16 Oct. 2021** | Operating systems and system calls; Operating systems architecture. |
| **18 Oct. to 23 Oct. 2021** | Process Management functions: Process model, hierarchies, |
| **25 Oct. to 30 Oct. 2021** | Implementation; process states and transitions;.  **Assignment of Unit-1** |
| **1 Nov. to 7 Nov. 2021** | **Diwali Holidays** |
| **8Nov. to 13 Nov.2021** | Memory Management and Virtual Memory : Logical versus Physical Address Space |
| **15Nov. to 20 Nov.2021** | Swapping, Contiguous Allocation, Paging, Segmentation, |
| **22Nov. to 27 Nov.2021** | Segmentation with Paging, Demand Paging, Performance of Demanding Paging, |
| **29 Nov. to 4 Dec. 2021** | Page Replacement, Page Replacement Algorithm |
| **6 Dec. to 11 Dec. 2021** | Allocation of Frames, Thrashing  **Assignment of Unit 2** |
| **13 Dec. to 18 Dec. 2021** | Device Management functions: I/O devices and controllers, interrupt handlers, |
| **20 Dec. to 25Dec. 2021** | Types of I/O Software: Device independent I/O software,User-space I/O software, Terminal I/O software. Disk scheduling |
| **27 Dec. to 31Dec. 2021** | File management functions: file naming, structure, types, access mechanisms, attributes and operations; directory structures and directory operations; file space allocations; file sharing, file locking; symbolic links; file protection and security: distributed file systems.  **Assignment and Test of Unit-3** |
| **1 Jan. to 8 Jan. 2022** | Concurrent programming: sequential and concurrent process; precedence graph, Bernsterins condition; |
| **10 Jan. to 15 Jan. 2022** | Time dependency and critical code section, mutual exclusion problem; classical process coordination problems; |
| **17 Jan. to 22 Jan. 2022** | deadlock handling, inter-process communication Unix Operating System: Overview of UNIX OS in general and implementation of all above functions in Unix Operating System. |
| **22 Jan. to 29 Jan. 2022** | **Test and Query discussion** |

Lesson Plan BCA 1st year  
COMPUTER FUNDAMENTALS  
PAPER CODE- BCA 101  
Extension Lecturer- ASHISH MALIK  
CS Department, GPGCW, Rohtak.  
Time Period Topics

1 Oct - 9Oct Generations of Computers, Definition, Block Diagram along with its components, characteristics & classification of computers,

11 Oct-16 Oct Limitations of Computers, Human-Being VS Computer, Applications of computers in various fields.

18 Oct - 23 Oct Concept of primary & secondary memory, RAM, ROM, types of ROM, Cache Memory, flash memory, Secondary storage devices: Sequential & direct access devices viz. magnetic tape, magnetic disk, optical disks i.e. CD, DVD, virtual memory.

25 Oct -30 Oct Computer hardware & software: I/O devices, definition of software, relationship between hardware and software, types of software.

1st Nov. -6th Nov. Diwali Vacations

8 Nov-13 Nov Overview of operating system: Definition, functions of operating system, concept of multiprogramming, multitasking, multithreading, multiprocessing, time-sharing, real time, single-user & multi-user operating system.

15 Nov -20 Nov Computer Virus: Definition, types of viruses, Characteristics of viruses, anti-virus software

22 Nov – 27 Nov Computer Languages: Analogy with natural language, machine language, assembly language, high-level languages, forth generation languages, compiler, interpreter, assembler, Linker, Loader ,

29 Nov – 4 Dec characteristics of a good programming language, Planning the Computer Program: Concept of problem solving, Problem definition, Program design, Debugging, Types of errors in programming, Documentation.

6 Dec – 11 Dec Structured programming concepts, Programming methodologies viz. top-down and bottomup programming, Advantages and disadvantages of Structured programming.

13 Dec – 18 Dec Overview of Networking: An introduction to computer networking, Network types (LAN, WAN, MAN), Network topologies, Modes of data transmission, Forms of data transmission,

20 Dec – 25 Dec Transmission channels(media), Introduction to internet and its uses,

27 Dec – 1 Jan Applications of internet, Hardware and Software requirements for internet, Intranet, Applications of intranet.

3 Jan – 8 Jan Test & Revision  
10 Jan – 15 Jan Test & Revision  
17 Jan – 22 Jan Test & Revision  
24 Jan – 31 Jan Test & Revision