**Session april 2021-2022**

**Lesson plan BBA 6th Sem**

**Subject - SAD**

**Neha Narwal (computer sc dept)**

**Time period Topics**

**Week 1** Intro to analysis and design ( system and its charac.,components,env,classification)

**Week 2** SDLC,case tools for analyst,role of system analyst,ER models,feasibility study

**Week 3** design of application-DFD,form design,screen design

**Week 4** report design,structure chart,database def,

**Week 5** equipment specf. And selection,personnel estimates

**Week 6** I-O design,implementation-data dictionary

**Week 7** decision tables,decision trees,logical design to physical implementation

**Week 8** intro to distributed data processing

**Week 9** real time system,evaluating distributing system

**Week 10** designing distributed data base

**Week 11** event based real time analysis

**Week 12** state transtition diagrams

**Week 13** SDLC

**Week 14** decision tables,decision trees

**Week 15** I-O design,RTS

**1 May onwards** revision ,presentation

**Session april 2021-2022**

**Lesson plan BSC phy hons 2nd yr**

**Subject – computer fundamentals and programming -II**

**Neha Narwal (computer sc dept)**

**Time period Topics**

**Week 1** types of errors,floating point computation,overflow and underflow,single and double precision arithmetic

**Week 2** iterative process,solution of non-linear equations,bisection,secant method

**Week 3** newton raphson method,comparison and error estimation,program for finding zeros of a given function

**Week 4** solution of simulta. Linear equation : gauss elimination method

**Week 5** computation of eigeon values and vectors of matrices using iterative process

**Week 6** program for finding soltn of a given system of three coupled linear eqn

**Week 7** interpolation ( newton forward and backward formulas)

**Week 8** program for interpolating data pointsfirst and second derivative of a given function data

**Week 9** integration : general quadrature formula

**Week 10** trapezoidal and Simpsons rule

**Week 11** gauss quadrature formula: gauss hermite ,gauss legendre

**Week 12** program for integrating a given function using simpson and gauss legendre methods

**Week 13** soltn of ordinary diff eqn

**Week 14** idea of predictor-corrector method

**Week 15** program for solving initial value problem using diff eqn using runge kutta method

**NAME OF EXTENSION LECTURER: PARMOD KUMAR**

**CLASS AND SECTION: BCA 2nd Sem. (B)**

**SUBJECT:** BCA-109 : **Subject: Structured Systems Analysis and Design**

**LESSION PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 April to 2 April** | Introduction to system, Definition and characteristics of a system, Elements of system |
| **Week 2 ,4 April to 9 April** | Types of system, System development life cycle, Role of system analyst |
| **Week 3, 11 April to 16 April** | Analyst/user  interface, System planning and initial investigation |
| **Week 4, 18 April to 23 April** | Introduction, Bases for planning in  system analysis, Sources of project requests, Initial investigation |
| **Week 5, 25 April to 30 April** | Fact finding, Information  gathering, information gathering tools, Fact analysis, Determination of feasibility |
| **Week 6, 2 May to 7 May** | Structured analysis, Tools of structured analysis: DFD, Data dictionary, Flow charts, Gantt  charts, decision tree, decision table, structured English, Pros and cons of each tool, |
| **Week 7, 9 May to 14 May** | Feasibility study: Introduction, Objective, Types, Steps in feasibility analysis, Feasibility  report, Oral presentation, |
| **Week 8,16 May to 21 May** | Cost and benefit analysis: Identification of costs and benefits,  classification of costs and benefits, Methods of determining costs and benefits, Interpret  results of analysis and take final action. |
| **Week 9, 23 May to 28 May** | System Design: System design objective, Logical and physical design, Design Methodologies,  structured design, Form-Driven methodology(IPO charts), |
| **Week 10, 30 May to 4 June** | structured walkthrough,  Input/Output and form design: Input design, Objectives of input design, Output design,  Objectives of output design, Form design, Classification of forms, requirements of form  design, Types of forms, Layout considerations, Form control. |
| **Week 11, 6 June to 11 June** | System testing: Introduction, Objectives of testing, Test plan, testing techniques/Types of  system tests, Quality assurance goals in system life cycle, System implementation |
| **Week 12, 13 June to 18 June** | Process of  implementation, System evaluation, System maintenance and its types, System  documentation, Forms of documentation. |
| **Week 13, 20 June to 25 June** | **Test & Revision** |
| **Week 14, 27 June to 30 June** | **Test & Revision** |

**NAME OF EXTENSION LECTURER: PARMOD KUMAR**

**CLASS AND SECTION: BBA 4TH  SEMESTER (A)**

**SUBJECT:** BCA – 405 **Subject:** DATA BASE MANAGEMENT SYSTEM

**LESSON PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 April to 2 April** | **Introduction** |
| **Week 2 ,4 April to 9 April** | **Introduction:** Introduction to data base management system – Data versus information |
| **Week 3, 11 April to 16 April** | record, file; data dictionary, database administrator, functions and responsibilities; |
| **Week 4, 18 April to 23 April** | file-oriented system versus database system. |
| **Week 5, 25 April to 30 April** | Database system architecture – Introduction, schemas, sub schemas and instances |
| **Week 6, 2 May to 7 May** | data base architecture, data independence |
| **Week 7, 9 May to 14 May** | mapping, data models, types of database systems. |
| **Week 8,16 May to 21 May** | TEST & REVISION |
| **Week 9, 23 May to 28 May** | Data base security – Threats and security issues, firewalls |
| **Week 10, 30 May to 4 June** | Database recovery; techniques of data base security; distributed data base. |
| **Week 11, 6 June to 11 June** | Data warehousing and data mining. Emerging data base technologies, internet, database, |
| **Week 12, 13 June to 18 June** | Digital libraries multimedia data base, mobile data base, spatial data base. |
| **Week 13, 20 June to 25 June** | Test & Revision |
| **Week 14, 27 June to 30 June** | Revision |

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**Lesson Plan**

**Class - BCA (Sem. 6)**

**Faculty – Ms. Neetu**

**Subject -Object Technologies & Programming using Java**

**Lesson Plan Duration - From April 2022 to June 2022**

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| **Time Period** | **Topics** |
| **Week1** | Paradigms of Programming languages, Evolution of OO methodology, Basic concepts of OO approach |
| **Week2** | Comparison of Object oriented and procedure oriented approaches, Benefits of OOPs |
| **Week3** | Introduction to common OO language, Applications of OOPs, Classes and objects, Abstraction and encapsulation, Inheritance |
| **Week4** | Method overriding and polymorphism, test assignment  Introduction to Java, Basic features, java virtual machine concepts |
| **Week5** | Primitive data type and variables, java operators, expressions, statements and arrays, Class fundamentals, objects, assigning object reference variables, methods, constructors, overloading constructors |
| **Week6** | , this keyword, object as parameters, argument passing, Returning objects, method overloading, garbage collection, finalize() method, inheritance basics, access control, multilevel inheritance, |
| **Week7** | Method overriding, abstract classes, polymorphism, final keyword. Test of unit 2. |
| **Week8** | Defining package, classpath, package naming, accessibility of packages, implementing interfaces, interface and abstract classes |
| **Week9** | Extend and implements together, exception, handling of exception, using try catch, catching multiple exceptions,type of exceptions, throwing exceptions, writing exception subclasses |
| **Week10** | Introduction to thread, java thread model, thread priorities, synchronization in java, inter thread communication, I/O basics, streams and stream classes |
| **Week1**1 | Test of Unit 3, predefined streams, reading from and writing to, console, reading and writing files, the transit and volatile modifiers |
| **Week12** | Using instance of native methods, fundamentals of characters and strings, the string class |
| **Week1**3 | String operations, data conversion using value of() methods, string buffer class and methods |
| **Week1**4 | Assignment of Unit 3 and 4. Test of unit 4 |
| **Week15** | **Revision, Presentation** |
| **1 May onwards** | **Revision** |

**Lesson Plan**

**Class - BSC (Sem. 4)**

**Faculty – Ms. Neetu**

**Subject –Data structures with C/C++**

**Lesson Plan Duration - From April 2022 to June 2022**

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| **Time Period** | **Topics** |
| **Week1** | Data-Structure operations, Algorithm, Complexity, Data structure and its essence |
| **Week2** | Introduction to Arrays, Array operations, Multi- dimensional arrays, sequential allocation, address calculations, |
| **Week3** | sparse arrays, Stacks-Introduction to Stacks, primitive operations on stacks |
| **Week4** | representation of stacks as an array and stack-applications.  Assignment |
| **Week5** | Introduction to queues, operations on queue, circular queue, priority queue, Applications of queue |
| **Week6** | Linked List-introduction and basic operations, Header nodes, doubly linked list, circular linked list, |
| **Week7** | Applications of linked list, Representation of linked list as an array, stacks and queues. Test of Unit 2 |
| **Week8** | Basic terminology, binary trees and binary search trees, implementing binary trees |
| **Week9** | Tree traversal algorithms, threaded trees, trees in search algorithms, |
| **Week10** | AVL Trees, Polish notation and expression trees, applications of binary trees. Test of Unit 3 |
| **Week1**1 | Graph data structure and their applications. Graph traversals, shortest paths, spanning trees and related algorithms |
| **Week12** | Internal and external sorting. Various sorting algorithms, Time and Space complexity of algorithms |
| **Week1**3 | Searching techniques. Applications of S orting and S earching in computer science. |
| **Week1**4 | Assignment of Unit 3 and 4. Test of unit 4 |
| **Week15** | **Revision, Presentation** |
| **1 May onwards** | **Revision** |

**Lesson Plan**

**Class -BCA 6TH SEM**

**Faculty – Pooja Anand**

**Subject –E Commerce**

**Paper Code- 208**

**Lesson Plan Duration - From April 2022 to June 2022**

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| **Time Period** | **Topics** |
| **Week 1 (April)** | Electronic Commerce: Overview of Electronic Commerce, Scope of Electronic Commerce, Traditional Commerce vs. Electronic Commerce, Impact of E-Commerce, |
| **Week 2 (April)** | Electronic Markets, Internet Commerce, e-commerce in perspective, Application of E Commerce in Direct Marketing and Selling |
| **Week 3 (April)** | Obstacles in adopting E-Commerce Applications; Future of E-Commerce.  **Test and Assignment on Unit -1** |
| **Wee 4 (April)** | Value Chains in electronic Commerce, Supply chain, Porter’s value chain Model, Inter Organizational value chains, Strategic Business unit chains, Industry value chains., |
| **Week 1 (May)** | Security Threats to E-commerce: Security Overview, Computer Security Classification, Copyright and Intellectual Property, security Policy and Integrated Security |
| **Week 2 (May)** | Intellectual Property Threats, electronic Commerce Threats, Clients Threats, Communication Channel Threats, server Threats.  **Assignment and Test on Unit -2** |
| **Week 3 (May)** | Implementing security for E-Commerce: Protecting E-Commerce Assets, Protecting Intellectual Property, |
| **Week 4 (May)** | Protecting Client Computers, Protecting E-commerce Channels, Insuring Transaction Integrity, Protecting the Commerce Server. |
| **Week 1 (June)** | Electronic Payment System: Electronic Cash, Electronic Wallets, Smart Card, Credit and Change Card  **Revision and Test on Unit -3** |
| **Week 2 (June)** | Business to Business E-Commerce: Inter-organizational Transitions |
| **Week 3 (June)** | Credit Transaction Trade Cycle, a variety of transactions |
| **Week 4 (June)** | Electronic Data Interchange (EDI): Introduction to EDI, Benefits of EDI, EDI Technology, EDI standards, EDI Communication, EDI Implementation, EDI agreement, EDI security.  **Test and revision on Unit 4** |
| **Week 5 (June)** | **Presentation and Query (Presentation and Quey)** |

Name ofAssistantProfessor: Pooja Anand

ClassandSection: BCA 4thSem

Subject: OOPs

PaperCode: 208

**Lesson Plan**: April 1 to June 30

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| Week 1: |
| Object Oriented Programming Concepts : Procedural Language and Object Oriented approach, Characteristics of OOP, user defined types, polymorphism and encapsulation. |
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| Week 2: |
| Getting started with C++: syntax, data types, variables, string, function, |
| **Week 3:** |
| namespace and exception, operators, flow control, recursion, array and pointer, |
| Week 4 : |
| UNIT-II Abstracting Mechanism: classes, private and public, Constructor and Destructor , member function, static members, references |
| Week 5 : |
| Memory Management: new, delete, object copying, copy constructer, assignment operator, this input/output |
| Week 6 : |
| UNIT-III Inheritance and Polymorphism: Derived Class and Base Class, Different types of Inheritance, |
| Week 7 **:** |
| Overriding member function, Abstract Class, Public and Private Inheritance, Ambiguity in Multiple inheritance , |
| Week 8 : |

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| Virtual function, Friend function, Static function. |
| Week 9 : |
| UNIT-IV Exception Handling: Exception and derived class, function exception declaration, |
| Week 10 : |
| unexpected exception, exception when handling exception, resource capture and release. |
| Week 11 : |
| Template and Standard Template Library: Template classes, declaration, |
| Week 12 : |
| template functions, namespace, string, iterators, hashes, iostreams and other types,  . |
| Week 13 : |
| Revision , Assignment and Test . |

**Lesson Plan BCA 6th Sem (Section B)**

**Academic Session-**  2021-22**Subject –**Programming in Java

**PAPER CODE-BCA 307 Extension Lecturer** – Dr. Jyoti

**Session 2021-22**

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| **Week** | **Topics** |
| 1 April-3 April | Paradigms of Programming Languages, Evolution of OO Methodology, Basic Concepts of OO Approach, Comparison of Object Oriented and Procedure Oriented Approaches. |
| 4 April-10 April | Benefits of OOPs , Introduction to Common OO Language, Applications of OOPs, Classes and Objects , Abstraction and Encapsulation, Inheritance, Method Overriding and Polymorphism, Introduction To Java, Basic Features, Java Virtual Machine Concepts |
| 11 April-17 April | Primitive Data Type And Variables, Statements, Control Structures and Arrays. |
| 18 April-24 April | Class and Objects-- Class Fundamentals, Creating objects, Assigning object reference variables, Introducing Methods, Static methods, |
| 25 April-1 May | Constructors, Overloading constructors, This Keyword, Using Objects as Parameters, Argument passing, Returning objects, Method overloading, Garbage Collection, The Finalize ( ) Method |
| 2 May- 8 May | Inheritance Basics, Access Control, Multilevel Inheritance, Method Overriding, Abstract Classes, Polymorphism, Final Keyword |
| 9 May- 15 May | Defining Package, CLASSPATH, Package naming, Accessibility of Packages, using Package Members, Implementing Interfaces |
| 16 May- 22 May | Interface and Abstract Classes, Extends and Implements together, Exception, Handling of Exception, Using try-catch |
| 23 May- 29 May | Catching Multiple Exceptions, Using finally clause, Types of Exceptions, Throwing Exceptions, Writing Exception Subclasses |
| 30 May- 5 June | Introduction, The Main Thread, Java Thread Model, Thread Priorities |
| 6 June- 12 June | Synchronization in Java, Inter thread Communication, I/O Basics, Streams and Stream Classes, The Predefined Streams |
| 13 June- 19 June | Reading from, and Writing to console, Reading and Writing Files, The Transient and Volatile Modifiers, Using Instance of Native Methods |
| 20 June- 26 June | Fundamentals of Characters and Strings, The String Class, String Operations, Data Conversion using Value Of ( ) Methods |
| 27 June- 30 June | String Buffer Class and Methods, String Buffer Class and Methods |

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| **Week** | **Topics** |
| 1 April-3 April | The Framework of .Net: Building blocks of .Net Platform (the CLR, CTS and CLS) |
| 4 April-10 April | Features of .Net, Deploying the .Net Runtime, Architecture of .Net platform, Introductionto namespaces & type distinction. |
| 11 April-17 April | Types & Object in .Net, the evolution of Web development |
| 18 April-24 April | Class Libraries in .Net, Introduction to Assemblies& Manifest in .Net, Metadata &attributes |
| 25 April-1 May | Introduction to C#: Characteristics of C#, Data types: Value types, referencetypes |
| 2 May- 8 May | Default value, constants, variables, scope of variables, boxing and unboxing |
| 9 May- 15 May | Operators and expressions: Arithmetic, relational, logical, bitwise, special operators |
| 16 May- 22 May | Evolution of expressions, operator precedence & associativity, Control constructs in C# |
| 23 May- 29 May | Decision making, loops, Classes & methods: Class, methods, constructors, destructors, |
| 30 May- 5 June | Overloading of operators & functions. |
| 6 June- 12 June | Inheritance & polymorphism: visibility control, overriding, abstract class & methods |
| 13 June- 19 June | Sealed classes & methods, interfaces |
| 20 June- 26 June | Advanced features of C#: Exception handling & error handling |
| 27 June- 30 June | Automatic memorymanagement, Input and output (Directories, Files, and streams) |

**Lesson Plan BCA 6th Sem (Section A)**

**Academic Session-**  2021-22**Subject –**INTRODUCTION TO .NET**PAPERCODE-BCA 309 Extension Lecturer** – Dr. Jyoti

**NAME OF EXTENSION LECTURER: TEENA SUNEJA**

**CLASS AND SECTION: BCA 4TH  SEMESTER**

**SUBJECT:** BCA – 206 **Subject:** WEB DESIGNING

**LESSON PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 April to 2 April** | Introduction to Internet and World Wide Web |
| **Week 2 ,4 April to 9 April** | Evolution and History of World Wide Web; |
| **Week 3, 11 April to 16 April** | Basic features; Web Browsers; Web Servers; Hypertext Transfer Protocol, TEST |
| **Week 4, 18 April to 23 April** | Overview of TCP/IP and its services; URLs; Searching and Web-Casting Techniques; Search Engines and Search Tools; |
| **Week 5, 25 April to 30 April** | Web Publishing: Hosting your Site; Internet Service Provider; Web terminologies, Phases of Planning and designing your Web Site |
| **Week 6, 2 May to 7 May** | Steps for developing your Site; Choosing the contents; Home Page; Domain Names, Front page views, Adding pictures, Links, |
| **Week 7, 9 May to 14 May** | Backgrounds, Relating Front Page to DHTML. Creating a Website and the Markup Languages (HTML, DHTML); TEST |
| **Week 8,16 May to 21 May** | Web Development: Introduction to HTML; Hypertext and HTML; HTML Document Features; |
| **Week 9, 23 May to 28 May** | HTML command Tags; Creating Links; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text; Page layouts; |
| **Week 10, 30 May to 4 June** | Images; Ordered and Unordered lists; Inserting Graphics; Table Creation and Layouts; TEST |
| **Week 11, 6 June to 11 June** | Frame Creation and Layouts; Working with Forms and Menus; Working with Radio Buttons; Check Boxes; Text Boxes; |
| **Week 12, 13 June to 18 June** | DHTML: Dynamic HTML, Features of DHTML,CSSP(cascading style sheet positioning) |
| **Week 13, 20 June to 25 June** | JSSS(JavaScript assisted style sheet), Layers of netscape, The ID attributes, DHTML events. |
| **Week 14, 27 June to 30 June** | Revision |

**NAME OF EXTENSION LECTURER: TEENA SUNEJA**

**CLASS AND SECTION: BCA 2nd SEMESTER AND SECTION- A**

**SUBJECT:** BCA-107 : **Subject:** LOC-II

**LESSION PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 April to 2 April** | Sequential Logic: Characteristics, |
| **Week 2 ,4 April to 9 April** | Flip-Flops, Clocked RS, D type, JK, T type and Master Slave flip-flops. |
| **Week 3, 11 April to 16 April** | State table, state diagram and state equations. Flip-flop excitation tables, TEST |
| **Week 4, 18 April to 23 April** | Sequential Circuits: Designing registers – Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO), |
| **Week 5, 25 April to 30 April** | Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO) and shift registers. Designing counters – Asynchronous and Synchronous Binary Counters, |
| **Week 6, 2 May to 7 May** | Modulo-N Counters and Up-Down Counters, TEST |
| **Week 7, 9 May to 14 May** | Memory & I/O Devices: Memory Parameters, Semiconductor RAM, ROM, |
| **Week 8,16 May to 21 May** | Magnetic and Optical Storage devices, |
| **Week 9, 23 May to 28 May** | Flash memory, I/O Devices and their controllers. |
| **Week 10, 30 May to 4 June** | Instruction Design & I/O Organization: Machine instruction, Instruction set selection, Test |
| **Week 11, 6 June to 11 June** | Instruction cycle, Instruction Format and Addressing Modes.. |
| **Week 12, 13 June to 18 June** | I/O Interface, Interrupt structure, Program-controlled |
| **Week 13, 20 June to 25 June** | Interrupt-controlled & DMA transfer, I/O Channels. |
| **Week 14, 27 June to 30 June** | IOP , TEST  **Revision** |

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

**Class and Section: M.Sc 2ndSem**

**Subject: Software Engineering**

**Paper Code: 16MCS22C3**

**Lesson Plan**: 14 Weeks (from April 2022 to June 2022)

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| Week 1, **April 1 to April 2** |
| Introduction to Software Engineering: Software crisis, Software engineering Approach and Challenges, |
| Week 2, **April 4 to April 9** |
| Principles of software engineering, Software development process models with comparison: Waterfall, Prototype, Time boxing and Spiral Models,RAD Model and Automation through software environments |
| Week 3, **April 11 to April 16** |
| Quality Standards like ISO 9001, SEI-CMM, Software Project Management: Management activities, Project planning, Project scheduling, Risk management activities. |
| Week 4, **April 18 to April 23** |
| Software Requirements Engineering: Requirements Engineering Processes, Feasibility studies, Requirements elicitation and analysis, Requirements validation, Requirements management. |
| Week 5**April 25 to April 30** |
| Software Requirements Analysis & Specifications: Software requirements, Structured analysis: Data Flow diagram, data dictionary, Revision and assignment related to above topics |
| Week 6,**May 2 to May 7** |
| Object oriented analysis, Software Requirement Specification (SRS): Need of SRS, Characteristics of SRS, Components of SRS, Structure of SRS, Software Metrics and Measure: Need and benefits of Software Metrics |
| Week 7**,May 9 to May 14** |
| Size Metrics: Line of code, Token metrics, Function point metrics, Control Complexity Metrics, Software Project Estimation Models- COCOMO models.Revision , Test and assignment related to above topics |
| Week 8, **May 16 to May 21** |
| Software Design: Fundamentals, problem partitioning & abstraction, design methodology, Function Oriented Design, Cohesion, Coupling & their classification, User Interface Design and Detailed design |
| Week 9, **May 23 to May 28** |
| Coding: Goals of coding phase, Programming style, Structured programming: objectives of structured programming, Principles of structured programming, advantages and disadvantages of structured programming. |
| Week 10, **May 30 to June 4** |
| Software Testing: Impracticality of Testing all Data and Paths, Levels of testing, Functional vs. Structural testing, Static and Dynamic Testing Tools, Regression testing, Mutation Testing, Stress Testing; Validation Vs. verification, Problem Discussion, Revision and Test related to above Topics |
| Week 11, **June 6 to June 11** |
| Software Maintenance: Need of maintenance, Categories of maintenance, Maintainability, Maintenance tasks, Maintenance side effects |
| Week 12, **June 13 to June 18** |
| Software Re‐Engineering: Source Code Translation, Program Restructuring, Data Re‐Engineering, Reverse Engineering. |
| Week 13,**June 20 to June 25** |
| Configuration Management: Maintaining Product Integrity, Change Management, Version Control, Configuration accounting: Reviews, Walkthrough, Inspection, and Configuration Audits. |
| Week 14, **June 27 Onwards** |
| Problem discussion , Presentation ,Sessional and Viva-Voce |

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

**Class and Section:**  **M.Sc. 4thSem**

**Subject: Software Lab**

**Paper Code: 17MCS24CL**

Practical Syllabus will be met as per schedule of concerned theory paper i.e. based on 17MCS24C1 and 17MCS24DB1.

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

**Class and Section: M.Sc. 2nd Sem(Computer Sc.)**

**Subject: Computer Networks**

**Paper Code: 16MCS22C4**

**Lesson Plan**: 14 Weeks (from April 2022 to June 2022)

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| Week 1: **April 1 to April 2** |
| Introduction to Computer Network , Types of Networks |
| Week 2: **April 4 to April 9** |
| Network Topologies, Define OSI Model, Define TCP Model, Reference Models, Comparison of Models**,** Define Data Communication, Problems related to above topics |
| Week 3: **April 11 to April 16** |
| Digital Vs. Analog Communication, Parallel and Serial Communication, Synchronous and Asynchronous Communication, Isochronous Communication, Communication modes, simple, half duplex, full duplex Problems and Discussion related to above topics, Assignments relates to above topics |
| Week 4: **April 18 to April 23** |
| Multiplexing and De-Multiplexing, Transmission Media: Wired Twisted Pair, Coaxial Cable, Optical Fiber Cable, Problems related to above topics |
| Week 5: **April 25 to April 30** |
| Wireless Transmission(Terrestrial, Microwave), Wireless Transmission(Satellite, Infra red), Communication Switching Techniques(Circuit, Message Switching), Communication Switching Techniques(Packet Switching), Problems and Discussion related to above topic, Assignments related to Models |
| **Week 6: May 2 to May 7** |
| Concept of Data Link Layer and its Framing, Basics of Error Detection, Forward Error Correction, Cycle Redundancy, Check Codes for Error Detection, Problems related to above topics |
| Week 7: **May 9 to May 14** |
| Flow Control, Test(Unit-I), Define Media Access Protocols(ALOHA), Carrier Sense Multiple Access(CSMA), CSMA With Collision Detection, Token Ring, Token Bus, Problems and Discussion related to above Topics, Assignments related to Switching Technique |
| Week 8: **May 16 to May 21** |
| Define High Speed LAN, Fast Ethernet, Gigabit Ethernet, 10G Wireless LAN, IEEE 802.11,Problems related to above topics |
| Week 9: **May 23 to May 28** |
| Define Bluetooth, Define Network Layer, IP Addressing and Routing, Network Layer Protocols(IP v4), ARP Protocol, Test(Unit-II), Define ICMP(Error Reporting and Query Message), Define IPv6(Header Format and Addressing),  , Problems related to above topic |
| Week 10: **May 30 to June 4** |
| Define Transport Layer, Define Process-to-Process Delivery, Oral Test, UDP, Problems and Discussion related to above topic |
| Week 11: **June 6 to June 11** |
| Define TCP, Connection Management by TCP, Basics of Congestion Control,  Congestion Control, , Assignments related to Network Layer, Define Application Layer, Define SMTP, HTTP, WWW |
| Week 12: **June 13 to June 18** |
| Network Security , Network Security Requirements, Security Attacks, Cryptography, Revision and Test, Problems and Discussion related to above topics |
| Week 13: **June 20 to June 25** |
| Cryptography, Symmetric Key(DES), Symmetric Key(AES), Public Key Cryptography(RSA), Problems related to above topics |
| Week 14: **June 27 Onwards** |
| Presentation, Sessional and Viva-Voce |

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

**Class and Section: APGDCA 2ND SEM (Computer Sc.)**

**Subject: System Analysis and Design**

**Paper Code: APGDCA 203**

**Lesson Plan**: 14 Weeks (from April 2022 to June 2022)

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| Week 1: **April 1 to April 2** |
| Overview of system analysis and design. Definition and characteristics of a system, Elements of system |
| Week 2: **April 4 to April 9** |
| Types of system, system development life cycle, project selection, feasibility, analysis, Problems related to above topics |
| Week 3: **April 11 to April 16** |
| System Design, implementation, testing and evaluation, Problems and Discussion related to above topics, Assignments related to above |
| Week 4: **April 18 to April 23** |
| Project Selection : Source of Project requests, managing project review and selection, preliminary investigation, Problems related to above topics |
| Week 5: **April 25 to April 30** |
| Feasibility Study : Technical and economical feasibility, cost and benefit analysis  System requirement specification, Problems and Discussion related to above topic, Assignments related to these. |
| Week 6: **May 2 to May 7** |
| Analysis : Fact finding techniques, Data flow diagrams, data dictionaries, process organization and interactions, Problems related to above topics |
| Week 7: **May 9 to May 14** |
| Decision analysis, decision trees and tables., System Design: System design objective, Logical and physical design, Problems related to above topics |
| Week 8: **May 16 to May 21** |
| Design Methodologies, structured design, Form-Driven methodology(IPO charts), structured walkthrough, Input/output and form design, Problems related to above topics |
| Week 9: **May 23 to May 28** |
| Input design, Objectives of input design, Output design, Objectives of output design, Form design, Classification of forms, , Problems related to above topic |
| Week 10: **May 30 to June 4** |
| requirements of form design, Types of forms, Layout considerations, Form control, Problems related to above topic, Assignment on above topic |
| Week 11: **June 6 to June 11** |
| System testing: Introduction, Objectives of testing, Test plan, testing techniques, Types of system tests Problems related to above topic |
| Week 12: **June 13 to June 18** |
| Quality assurance goals in system life cycle, System implementation, Process of implementation, Problem and Revision on above topic and test |
| Week 13: **June 20 to June 25** |
| System evaluation, System maintenance and its types, System documentation, Forms of documentation. Revision, Problems and Discussion related to above topics |
| Week 14: **June 27 Onwards**  Presentation, Sessional and Viva-Voce |

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

**Class and Section: APGDCA 2ND SEM (Computer Sc.)**

**Subject: Software Lab**

**Paper Code: APGDCA 204**

Practical Syllabus will be met as per schedule of concerned theory paper i.e. based on APGDCA 201 and APGDCA 202

**Lesson Plan**

**Class - B.Sc. Part-I with Computer Science as a Subject (Sem. 2)**

**Faculty - Mrs.Rohini Sharma**

**Subject -Paper 2.2: Structured Systems Analysis and Design**

**Lesson Plan Duration - From 01 April 2022 to 30th June 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **01 – 08 April** | (Unit -1): Introduction to system, Definition and characteristics of a system, Elements of system, Types of system, |
| **10 – 16 April** | System development life cycle, Role of system analyst, Analyst/user interface |
| **17 – 22 April** | System planning and initial  investigation: Introduction, Bases for planning in system analysis |
| **24 – 29 April** | Sources of project requests, Initial  investigation, Fact finding, Information gathering, information gathering tools., Test Unit 1 |
| **02 – 07 May** | (unit-2): Structured analysis, Tools of structured analysis: DFD, Data dictionary, Flow charts, Gantt charts, decisiontree, decision table, structured English, Pros and cons of each tool, Feasibility study: Introduction, Objective,  Types, Steps in feasibility analysis, Feasibility report, Oral presentation, |
| **09 – 14 May** | Cost and benefit analysis:  Identification of costs and benefits, classification of costs and benefits, Methods of determining costs and  benefits, Interpret results of analysis and take final action.  test of Unit 2 |
| **16 – 21 May** | (Unit-3): System Design: System design objective, Logical and physical design, Design Methodologies, structured  design, Form-Driven methodology(IPO charts), structured walkthrough |
| **23 - 28 May** | Input/Output and form design:  Input design, Objectives of input design, Output design, Objectives of output design, Form design |
| **30 May - 04 June** | Classification of forms, requirements of form design,Types of forms, Layout considerations, Form control.. Test of Unit 3 |
| **05 June – 11 June** | System testing: Introduction, Objectives of testing, Test plan, testing techniques/Types of system tests |
| **13 June – 18 June** | Quality assurance goals in system life cycle, System implementation |
| **20 June – 25 June** | Process of implementation, System  evaluation, System maintenance and its types, System documentation, Forms of documentation |
| **27 June – 30 June** | Test of Unit 4. Revision. Discussion on last year question papers |

**Lesson Plan**

**Class - BCA (Sem. 6) 309**

**Faculty - Mrs.Rohini Sharma**

**Subject -INTRODUCTION TO .NET (Theory)**

**Lesson Plan Duration - From 01April 2022 to 30thJune 2022**

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| --- | --- |
| **Time Period** | **Topics** |
| **01–08 April** | (Unit -1): The Framework of .Net: Building blocks of .Net Platform (the CLR, CTS and CLS) |
| **10 – 16 April** | Features of .Net, Deploying the .Net Runtime, Architecture of .Net platform, Introduction to namespaces & type distinction. |
| **17 – 22 April** | Types & Object in .Net, the evolution of Web development |
| **24 – 29 April** | Class Libraries in .Net, Introduction to Assemblies& Manifest in .Net, Metadata &attributes , Test Unit 1 |
| **02 – 07 May** | (unit-2): Introduction to C#: Characteristics of C#, Data types: Value types, referencetypes, Default value, constants, |
| **09 – 14 May** | variables, scope of variables, boxing and unboxing  test of Unit 2 |
| **16 – 21 May** | (Unit-3): Operators and expressions: Arithmetic, relational, logical, bitwise, special operators |
| **23 - 28 May** | Evolution of expressions, operator precedence & associativity, Control constructs in C#, Overloading of operators & functions. |
| **30 May - 04June** | Decision making, loops, Classes & methods: Class, methods, constructors, destructors. Test of Unit 3 |
| **05 June – 11 June** | Inheritance & polymorphism: visibility control, overriding, abstract class & methods, Sealed classes & methods, |
| **13 June – 18 June** | Interfaces, Advanced features of C#: Exception handling & error handling, Automatic memorymanagement, |
| **20 June – 25 June** | Input and output (Directories, Files, and streams) |
| **27 June – 30 June** | Test of Unit 4. Revision. Discussion on last year question papers |

**Class - BCA (Sem. 6) 309**

**Faculty - Mrs.Rohini Sharma**

**Subject –Practical Lab based on .NET and JAVA (310)**

**Lesson Plan Duration - From 01 April 2022 to 30th June 2022**

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| --- | --- |
| **Time Period** | **Topics** |
| **01 – 08 April** | Introduction to JAVA, How to set PATH and environment variables. How to compile and run a program in JAVA.  Fibonacci Series. Basic arithmetic programs through console and in built inputs. |
| **10 – 16 April** | Star and Number Patterns. If else and loop programs |
| **17 – 22 April** | Methods in Java. Introduction to Visual Studio. NET 2010. How to install and build a program in .NET |
| **24 – 29 April** | Constructor, Destructor in JAVA, Method overloading, Garbage Collection, The Finalize ( ) Method.  Boxing and unboxing in C# |
| **02 – 07 May** | Operators and expressions in C#,  JAVA: Inheritance Basics, Access Control, Multilevel Inheritance, |
| **09 – 14 May** | Control constructs in C#:Decision making, loops  JAVA: Method Overriding, Abstract Classes, Polymorphism, Final Keyword |
| **16 – 21 May** | C#: Classes & methods: Class, methods, constructors, destructors,overloading of operators & functions.JAVA: Package, Interface |
| **23 - 28 May** | C#: Inheritance & polymorphism: visibility control, overriding, abstract class & methods, sealed  JAVA: Exceptions Handling |
| **30 May - 04 June** | C#: Advanced features of C#: Exception handling & error handling.  JAVA: Multithreading |
| **05 June – 11 June** | C#: automatic memorymanagement  JAVA: I/O in Java |
| **13 June – 18 June** | C#: Input and output  JAVA: |
| **20 June – 25 June** | C#: Interfaces  JAVA: Strings and Characters |
| **27 June – 30 June** | Practices |

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

**Class and Section: M.Sc. 2nd Semester**

**Subject: Data Structures Using C**

**Paper Code: 16MCS22C1**

**Lesson Plan**: 14 Weeks (from April 2022 to June 2022)

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| --- |
| Week 1, **April 1 to April 2** |
| **Introduction to Algorithm Design and Data Structure:** Introduction and Algorithm definition |
| Week 2, **April 4 to April 9** |
| Top-down and Bottom-up approaches to Algorithm design, Algorithm for searching, sorting, Merging |
| Week 3, **April 11 to April 16** |
| Analysis of Algorithm: Frequency count, Time Space tradeoff, Structured approach to programming. Problems related to Unit-I, Oral test and assigned Assignment related to Unit-I |
| Week 4, **April 18 to April 23** |
| **Arrays:** Representation of single and multidimensional arrays; Address calculation using column and row major ordering, Various operation on Arrays |
| Week 5 **April 25 to April 30** |
| Vectors, Application of arrays, Sparse arrays – lower and upper triangular matrices and Tri-diagonal matrices |
| **Week 6, May 2 to May 7** |
| **Sorting:** Selection sort, Insertion sort, Bubble sort, Quick sort, Merge sort, Heap sort, Radix sort and their complexity |
| Week 7, **May 9 to May 14** |
| **Searching:** Linear search, Binary search, Hashing function and Collision Handling methods. Revision , Assignment and test related to above topics |
| Week 8 **May 16 to May 21** |
| **Stacks and Queues**: Introduction and Primitive operations on stack; Stack application: Infix, postfix, prefix expressions; Evaluation of postfix expression; Conversion from infix to Postfix; |
| Week 9, **May 23 to May 28** |
| Introduction and Primitive Operation on queues, Algorithm related to Queue operations , De Queue, Priority Queue, Circular Queue, Revision and Problem discussion related to Stacks and Queues |
| Week 10, **May 30 to June 4** |
| **Linked Lists**: Introduction to Linked lists; Implementation of linked lists, operations such as traversal, Insertion, deletion, searching, Circular linked lists, Doubly Linked lists, Problem discussion related to Linked List |
| Week 11, **June 6 to June 11** |
| Introduction and Terminology of Trees, Traversal of Binary Trees, Recursive Algorithm for tree Operations, Threaded Binary Tree, Binary Search Trees, AVL Trees and B- Trees, Problem discussion related to Trees |
| Week 12, **June 13 to June 18** |
| **Graph:** Adjacency matrix, Adjacency lists, Traversal schemes: Depth first and Breadth first search |
| Week 13, **June 20 to June 25** |
| Spanning tree: Definition, Minimal spanning tree algorithms, Shortest path algorithms (Prim’s and Kruskal’s) |
| Week 14, **June 27 Onwards** |
| Presentation ,Sessional and Viva-Voce |
|  |

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

**Class and Section: M.Sc. 2nd Semester**

**Subject: Software Lab**

**Paper Code: 16MCS22CL**

Practical Syllabus will be met as per schedule of concerned theory paper i.e. based on 16MCS22C1 and 16MCS22C2.

**NAME OF EXTENSION LECTURER: Ritika**

**CLASS AND SECTION: BCA,sec-B**

**SUBJECT: BCA-207 Subject: Data Structure**

**LESSION PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 April to 2 April** | Tree: Header nodes, Threads, Binary search trees, Searching, Insertion, deletion in a Binary search tree, |
| **Week 2 ,4 April to 9 April** | AVL trees,  Insertion and deletion in AVL search tree, m-way search tree, |
| **Week 3, 11 April to 16 April** | Searching, Insertion and deletion in an m-way search tree, B-trees |
| **Week 4, 18 April to 23 April** | Searching, Insertion and deletion in a B-tree, B+tree, Huffman’s algorithm, General trees. |
| **Week 5, 25 April to 30 April** | Graphs: Wars hall’s algorithm for shortest path |
| **Week 6, 2 May to 7 May** | Dijkstra algorithm for shortest path, |
| **Week 7, 9 May to 14 May** | Operations on graphs, Traversal of graph, Topological sorting |
| **Week 8,16 May to 21 May** | Quick sort, Heap sort, Merge sort, Tournament sort, |
| **Week 9, 23 May to 28 May** | Searching: Liner search, binary search, merging |
| **Week 10, 30 May to 4 June** | Comparison of various sorting and searching algorithms on the basis of their complexity |
| **Week 11, 6 June to 11 June** | Files: Physical storage devices and their characteristics, Attributes of a file viz fields, records |
| **Week 12, 13 June to 18 June** | , Fixed and variable length records, Primary and secondary keys, Classification of files, |
| **Week 13, 20 June to 25 June** | File operations, Comparison of various types of files, File organization: Serial, Sequential, Indexed-sequential, Random-access/Direct |
| **Week 14, 27 June to 30 June** | , Inverted, Multilist file organization. Hashing: Introduction, Hashing functions and Collision resolution methods |

**NAME OF EXTENSION LECTURER: Ritika**

**CLASS AND SECTION: BSc 2nd Sem**

**SUBJECT:** Programming in C,2.1

**LESSION PLAN 2021-2022 SESSION**

|  |  |
| --- | --- |
| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 April to 2 April** | Basic concepts of programming, techniques of problem solving, algorithm designing |
| **Week 2 ,4 April to 9 April** | flowcharting, concept of structured programming-Top-Down design, Development of efficient program; |
| **Week 3, 11 April to 16 April** | Program correctness; Debugging and testing of programs, Algorithm for searching, sorting(Insertion, Exchange), Merging of Order-List. |
| **Week 4, 18 April to 23 April** | Overview of C: History of C, Importance of C, Structure of a C Program Elements of C: C character set, identifiers and keywords, Data types: declaration and definition. |
| **Week 5, 25 April to 30 April** | Operators: Arithmetic, relational, logical, bitwise, unary, assignment and conditional operators and their hierarchy & |
| **Week 6, 2 May to 7 May** | associativity, input/output statements, Decision making |
| **Week 7, 9 May to 14 May** | Branching: Decision making with if statement, if-else statement, nested if, else-if ladder |
| **Week 8,16 May to 21 May** | switch statement, goto statement. Decision making & looping: for, while, and do-while loop; Jumps in loop, break, continue |
| **Week 9, 23 May to 28 May** | Functions: Definition, prototype, passing parameters, Recursion. |
| **Week 10, 30 May to 4 June** | Pointers: Declaration, operations on pointers, array of pointers, pointers to arrays. |
| **Week 11, 6 June to 11 June** | Data Structures Arrays: One Dimensional, Multidimensional, Pointers and arrays |
| **Week 12, 13 June to 18 June** | . Strings: String Constants, Input & Output String Functions. Structure & Unions. |
| **Week 13, 20 June to 25 June** | File Handling: Standard I/O text File, Writing to File, Reading a File. |
| **Week 14, 27 June to 30 June** | Revision |

**Lesson Plan**

**Class –BCA-4thSem (Computer Science)**

**Faculty –Mr. Chain Singh**

**Subject – DATA STRUCTURE-II**

**Lesson Plan Duration –From 1 April 2022 to 30thJune- 2022**

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| **Time Period** | **Topics** |
| **Week1** | Tree: Header nodes, Threads, Binary search trees, Searching, Insertion and deletion in a Binary search tree |
| **Week2** | AVL search trees, Insertion and deletion in AVL search tree, |
| **Week3** | m-waysearch tree, Searching, Insertion and deletion in an m-way search tree, B-trees, Searching,Insertion and deletion in a B-tree, B+tree. |
| **Week4** | Huffman’s algorithm, General trees.Graphs: Warshall’s algorithm for shortest path, Dijkstra algorithm for shortest path, |
| **Week5** | Operations on graphs, Traversal of graph, Topological sorting. |
| **Week6** | Sorting: Internal & external sorting, Radix sort, Quick sort, Heap sort, Merge sort, |
| **Week7** | Tournament sort, Searching: Liner search, binary search, merging, |
| **Week8** | Comparison of various sorting and searching algorithms on the basis of their complexity. |
| **Week9** | Files: Physical storage devices and their characteristics, Attributes of a file viz fields, records, Fixed and variable length records, |
| **Week10** | Primiry and secondary keys, Classification of files, File  operations, Comparison of various types of files, File organization: Serial, Sequential, |
| **Week11** | Indexed-sequential, Random-access/Direct, Inverted, Multilist file organization. |
| **Week12** | Hashing: Introduction, Hashing functions and Collision resolution methods. |
| **Week13** | Revision |
| **Week14** | Revision |

**Lesson Plan**

**Class – BCA-6thSem**

**Faculty – Mr. Chain Singh**

**Subject –Artificial Intelligence(BCA-308)**

**Lesson Plan Duration –From 1 April 2022 to 30th June- 2022**

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| **Time Period** | **Topics** |
| **Week 1** | Overview of A.I: Introduction to AI, Importance of AI |
| **Week 2** | AI and its related field, AI techniques, Criteria for success |
| **Week 3** | Problems, problem space and search: Defining the problem as a state space search, |
| **Week 4** | Production system and its characteristics, Issues in the design of the search problem Heuristic search techniques : Generate and test, hill climbing, best first search technique |
| **Week 5** | problem reduction, constraint satisfaction, Taking queries from students |
| **Week 6** | Knowledge Representation: Definition and importance of knowledge, Knowledge representation |
| **Week 7** | Various approaches used in knowledge representation, Issues in knowledge representation.,Test |
| **Week 8** | Using Predicate Logic : Represent ting Simple Facts in logic, Representing instances and is\_a relationship, |
| **Week 9** | Computable function and predicate. Natural language processing : Introduction syntactic processing, |
| **Week 10** | Semantic processing, Discourse and pragmatic processing.,Test |
| **Week 11** | Learning: Introduction learning, Rote learning, Learning by taking advice, Learning in problem solving, |
| **Week 12** | Learning from example-induction, Explanation based learning |
| **Week 13** | Expert System: Introduction, Representing using domain specific knowledge, Expert system shells.,Test |
| **Week 14** | Revision |

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

**Class and Section: BCA 2ndSem**

**Subject: ‘C’ Programming**

**Paper Code: BCA 106 (Sec-A)**

**Lesson Plan**: **April 2022 to June 2022**

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| --- |
| Week 1: **1 April to 2 April 2022** |
| Overview of C: History of C, Importance of C |
| Week 2: **4 April to 9 April 2022** |
| Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant, Structure of a C Program, printf(), scanf() Functions |
| Week 3: **11 April to 16 April 2022** |
| Operators & Expression: Arithmetic, relational, logical, bitwise, unary, assignment, shorthand assignment operators, conditional operators and increment and decrement operators |
| Week 4: **18 April to 23 April 2022** |
| Arithmetic expressions, evaluation of arithmetic expression, type casting and conversion, operator hierarchy & associativity |
| Week 5: **25 April to 30 April 2022** |
| **Assignment and Test of Unit-1**,Decision making & branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder |
| **Week 6: 2 May to 7 May 2022** |
| Switch statement, goto statement. Decision making & looping: For, while, and do-while loop |
| Week 7: **9 May to 14 May 2022** |
| Jumps in loops, break, continue statement, Nested loops, **Assignment and test of Unit -2** |
| Week 8: **16 May to 21 May 2022** |
| Functions: Standard Mathematical functions, Input/output: Unformatted & formatted I/O function in C, Input functions viz. getch(), getche(), getchar(), gets() |
| Week 9: **23 May to 28 May 2022** |
| output functions viz., putch(), putchar(), puts(), string manipulation functions, User defined functions: Introduction/Definition |
| Week 10: 3**0 May to 4 June 2022** |
| Function prototype, Local and global variables, passing parameters, recursion, Arrays, strings and pointers: Definition, types, initialization, processing an array, **Assignment and Test of Unit-3** |
| Week 11: **6 June to 11 June 2022** |
| Passing arrays to functions, Array of Strings. String constant and variables, Declaration and initialization of string, Input/output of string data |
| Week 12**: 13 June to 18 June 2022** |
| Introduction to pointers. Storage classes in C: auto, extern, register and static storage class, their scope, storage, & lifetime. |
| Week 13**: 20 June to 25 June 2022** |
| Algorithm development, Flowcharting and Development of efficient program in C, **Assignment and Test of Unit-4** |
| Week 14**: 27 June 2022 Onwards** |
| Revision, Test, Query discussion and Presentation |

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

**Class and Section: B.Sc. 6thSem**

**Subject: Software Engineering**

**Paper Code: Paper 6.2**

**Lesson Plan**: **April 2022 to June 2022**

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| Week 1: **1 April to 2 April 2022** |
| Software and software engineering: Software characteristics, Software Processes, software crisis |
| Week 2: **7 April to 9 April 2022** |
| Software life cycle models, Waterfall, Prototype, Evolutionary and Spiral Models |
| Week 3: **14 April to 16 April 2022** |
| Software engineering paradigms, goals and principles of software engineering. |
| Week 4: **21 April to 23 April 2022** |
| Software requirement analysis – Structured analysis, object-oriented analysis |
| Week 5: **28 April to 30 April 2022** |
| **Assignment and Test of Unit-1**, data modeling, software requirement specification, validation. |
| Week 6:**5 May to 7 May 2022** |
| Software requirements Analysis and Specifications: Requirement engineering, requirements analysis using DFD, Data Dictionaries |
| Week 7: **12 May to 14 May 2022** |
| E-R Diagram, requirement documentation, nature of SRS, characteristics and organization of SRS., **Assignment and test of Unit -2** |
| Week 8: **19 May to 21 May 2022** |
| Software project management: Planning a software project, Software cost estimation, project scheduling, |
| Week 9: **26 May to 28 May 2022** |
| personnel planning, team structure Software configuration management, |
| Week 10: **2 June to 4 June 2022** |
| software quality and quality assurance, project monitoring, risk Management, **Assignment and Test of Unit-3** |
| Week 11: **9 June to 11 June 2022** |
| Design and implementation of software- Software design fundamentals, software design principles |
| Week 12**: 16 June to 18 June 2022** |
| Cohesion and Coupling, Classification of Cohesion and Coupling, Function oriented design, |
| Week 13**: 23 June to 25 June 2022** |
| Objectoriented Design, design verification, monitoring and control,**Assignment and Test of Unit-4** |
| Week 14**: 30 June 2022 Onwards** |
| Revision, Test, Query discussion and Presentation |

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

**Class and Section: BCA 2nSem**

**Subject: Practical Software Lab**

**Paper Code: BCA 110**

Practical Syllabus will be met as per Schedule of Concerned theory paper i.e. based on Paper 106, C Programming.

**NAME OF EXTENSION LECTURER: SUMAN & ARCHANA**

**CLASS AND SECTION: BCA 2nd SEMESTER AND SECTION- A,B**

**SUBJECT:** BCA-108 : **Subject:** MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

**LESSION PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 April to 2 April** | Algorithm: Algorithms, merits and demerits, |
| **Week 2 ,4 April to 9 April** | Graph Theory: Graphs, Types of graphs, |
| **Week 3, 11 April to 16 April** | degree of vertex, sub graph, isomorphic, TEST |
| **Week 4, 18 April to 23 April** | homeomorphic graphs, Adjacent and incidence matrices, |
| **Week 5, 25 April to 30 April** | Path Circuit ; Eulerian,Hamiltonian path circuit. |
| **Week 6, 2 May to 7 May** | Exponentiation, How to compute fast exponentiation, TEST |
| **Week 7, 9 May to 14 May** | Linear Search, Binary Search, "Big Oh" notation, Worst case, Advantage of logarithmic algorithms over linear algorithms, complexity. |
| **Week 8,16 May to 21 May** | Tree: Trees, Minimum distance trees, Minimum weight and Minimum distance spanning trees. |
| **Week 9, 23 May to 28 May** | Recursion: Recursively defined function. Merge sort, Insertion sort, Bubble sort, and Decimal to Binary |
| **Week 10, 30 May to 4 June** | Basic Statistics: Measure of Central Tendency, Preparing frequency distribution table, Mean, Test |
| **Week 11, 6 June to 11 June** | Mode, Median, Measure of Dispersion: Range, Variance and Standard Deviations, Correlation and Regression. |
| **Week 12, 13 June to 18 June** | Recurrence Relations: LHRR, LHRRWCCs, DCRR. Recursive procedures |
| **Week 13, 20 June to 25 June** | Number Theory: Principle of Mathematical induction, GCD, Euclidean algorithm, Fibonacci numbers. |
| **Week 14, 27 June to 30 June** | congruences and equivalence relations, public key encryption schemes **Revision** |

**NAME OF EXTENSION LECTURER: SUMAN**

**CLASS AND SECTION: BCA 4TH  SEMESTER**

**SUBJECT:** BCA – 206 **Subject:** WEB DESIGNING

**LESSON PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 April to 2 April** | Introduction to Internet and World Wide Web |
| **Week 2 ,4 April to 9 April** | Evolution and History of World Wide Web; |
| **Week 3, 11 April to 16 April** | Basic features; Web Browsers; Web Servers; Hypertext Transfer Protocol, TEST |
| **Week 4, 18 April to 23 April** | Overview of TCP/IP and its services; URLs; Searching and Web-Casting Techniques; Search Engines and Search Tools; |
| **Week 5, 25 April to 30 April** | Web Publishing: Hosting your Site; Internet Service Provider; Web terminologies, Phases of Planning and designing your Web Site |
| **Week 6, 2 May to 7 May** | Steps for developing your Site; Choosing the contents; Home Page; Domain Names, Front page views, Adding pictures, Links, |
| **Week 7, 9 May to 14 May** | Backgrounds, Relating Front Page to DHTML. Creating a Website and the Markup Languages (HTML, DHTML); TEST |
| **Week 8,16 May to 21 May** | Web Development: Introduction to HTML; Hypertext and HTML; HTML Document Features; |
| **Week 9, 23 May to 28 May** | HTML command Tags; Creating Links; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text; Page layouts; |
| **Week 10, 30 May to 4 June** | Images; Ordered and Unordered lists; Inserting Graphics; Table Creation and Layouts; TEST |
| **Week 11, 6 June to 11 June** | Frame Creation and Layouts; Working with Forms and Menus; Working with Radio Buttons; Check Boxes; Text Boxes; |
| **Week 12, 13 June to 18 June** | DHTML: Dynamic HTML, Features of DHTML,CSSP(cascading style sheet positioning) |
| **Week 13, 20 June to 25 June** | JSSS(JavaScript assisted style sheet), Layers of netscape, The ID attributes, DHTML events. |
| **Week 14, 27 June to 30 June** | Revision |

**NAME OF EXTENSION LECTURER: ARCHANA**

**CLASS AND SECTION: BCA 2nd SEMESTER AND SECTION- A,B**

**SUBJECT:** BCA-107 : **Subject:** LOC-II

**LESSION PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 April to 2 April** | Sequential Logic: Characteristics, |
| **Week 2 ,4 April to 9 April** | Flip-Flops, Clocked RS, D type, JK, T type and Master Slave flip-flops. |
| **Week 3, 11 April to 16 April** | State table, state diagram and state equations. Flip-flop excitation tables, TEST |
| **Week 4, 18 April to 23 April** | Sequential Circuits: Designing registers – Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO), |
| **Week 5, 25 April to 30 April** | Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO) and shift registers. Designing counters – Asynchronous and Synchronous Binary Counters, |
| **Week 6, 2 May to 7 May** | Modulo-N Counters and Up-Down Counters, TEST |
| **Week 7, 9 May to 14 May** | Memory & I/O Devices: Memory Parameters, Semiconductor RAM, ROM, |
| **Week 8,16 May to 21 May** | Magnetic and Optical Storage devices, |
| **Week 9, 23 May to 28 May** | Flash memory, I/O Devices and their controllers. |
| **Week 10, 30 May to 4 June** | Instruction Design & I/O Organization: Machine instruction, Instruction set selection, Test |
| **Week 11, 6 June to 11 June** | Instruction cycle, Instruction Format and Addressing Modes.. |
| **Week 12, 13 June to 18 June** | I/O Interface, Interrupt structure, Program-controlled |
| **Week 13, 20 June to 25 June** | Interrupt-controlled & DMA transfer, I/O Channels. |
| **Week 14, 27 June to 30 June** | IOP , TEST  **Revision** |

**NAME OF EXTENSION LECTURER: MONIKA AHLAWAT**

**CLASS AND SECTION: BCA 6th SEMESTER AND SECTION-B**

**SUBJECT: BCA-308 Subject: Artificial Intelligence**

**LESSION PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 April to 2 April** | Overview of A.I: Introduction to AI, Importance of AI |
| **Week 2 ,4 April to 9 April** | AI and its related field, AI techniques, Criteria for success |
| **Week 3, 11 April to 16 April** | Problems, problem space and search: Defining the problem as a state space search, |
| **Week 4, 18 April to 23 April** | Production system and its characteristics, Issues in the design of the search problem Heuristic search techniques : Generate and test, hill climbing, best first search technique |
| **Week 5, 25 April to 30 April** | problem reduction, constraint satisfaction, Taking queries from students |
| **Week 6, 2 May to 7 May** | Knowledge Representation: Definition and importance of knowledge, Knowledge representation |
| **Week 7, 9 May to 14 May** | Various approaches used in knowledge representation, Issues in knowledge representation.,Test |
| **Week 8,16 May to 21 May** | Using Predicate Logic : Represent ting Simple Facts in logic, Representing instances and is\_a relationship, |
| **Week 9, 23 May to 28 May** | Computable function and predicate. Natural language processing : Introduction syntactic processing, |
| **Week 10, 30 May to 4 June** | Semantic processing, Discourse and pragmatic processing.,Test |
| **Week 11, 6 June to 11 June** | Learning: Introduction learning, Rote learning, Learning by taking advice, Learning in problem solving, |
| **Week 12, 13 June to 18 June** | Learning from example-induction, Explanation based learning |
| **Week 13, 20 June to 25 June** | Expert System: Introduction, Representing using domain specific knowledge, Expert system shells.,Test |
| **Week 14, 27 June to 30 June** | **Revision** |

**NAME OF EXTENSION LECTURER: MONIKA AHLAWAT**

**CLASS AND SECTION: BBA 4TH  SEMESTER**

**SUBJECT: BBAN-204 Subject: COMPUTER APPLICATIONS IN MANAGEMENT**

**LESSON PLAN 2021-2022 SESSION**

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| **DATE** | **SYLLABUS TOPIC** |
| **Week 1, 1 April to 2 April** | Introduction to Computers – History, basic anatomy, |
| **Week 2 ,4 April to 9 April** | operating system, memory, input/output devices; |
| **Week 3, 11 April to 16 April** | Types of computers, classification of computers |
| **Week 4, 18 April to 23 April** | Hardware and software, Networking – Advantage, types, |
| **Week 5, 25 April to 30 April** | Devices and network connection, wireless  networking; virus and firewalls. |
| **Week 6, 2 May to 7 May** | Introduction to information technologies; www, search engines, web browsers, |
| **Week 7, 9 May to 14 May** | IP addressing, web hosting and web publishing, Internet applications in business, |
| **Week 8,16 May to 21 May** | Chatting and e-mailing; computer applications, advantages and limitations, |
| **Week 9, 23 May to 28 May** | Use in offices, education, institutions, healthcare. |
| **Week 10, 30 May to 4 June** | Data, information and types; Information systems, |
| **Week 11, 6 June to 11 June** | Types – MIS, TPS, OAS, DSS, |
| **Week 12, 13 June to 18 June** | Expert systems, executive information systems. Multimedia applications in business; |
| **Week 13, 20 June to 25 June** | Marketing and advertising; web applications  of multimedia. |
| **Week 14, 27 June to 30 June** | Revision |

**Lesson Plan**

**Class – B.Sc (Pass Course Computer Sc.) 6thSem**

**Faculty – Ms. Navita**

**Subject –Visual Basic Programming and Software Engineering**

**Paper Code- 6.1& 6.2**

**Lesson Plan Duration - From April 2022 to June 2022**

|  |  |
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| **Time Period** | **Topics** |
| **Week 1 (April)** | Introduction to VB, Visual & Non-visual programming, Procedural, Object-oriented and event- driven programming languages,VB environment: Menu bar, Toolbar, Project explorer, Toolbox |
| **Week 2 (April)** | Properties window, Form designer, Form layout, Immediate window. Event driven programming  **Test and Assignment on Unit -1** |
| **Week 3 (April)** | Basics of Programming: Variables: Declaration, Types of variables, Converting variables types |
| **Wee 4 (April)** | User defined data types, Scope & lifetime of variables. Constants: Named & intrinsic. |
| **Week 1 (May)** | Operators: Arithmetic, Relational & Logical operators. |
| **Week 2 (May)** | I/O in VB: Various controls for I/O in VB, Message box, Input Box, Print statement |
| **Week 3 (May)** | **Assignment and Test on Unit -2**  Programming with VB: Decisions and conditions: If statement, If-then-else, Select-case |
| **Week 4 (May)** | Looping statements: Do-loops, For-next, While-wend, Exit statement. Nested control structures |
| **Week 1 (June)** | Arrays: Declaring and using arrays, one-dimensional and multi-dimensional arrays, Static & dynamic arrays, Arrays of array.  **Revision and Test on Unit -3** |
| **Week 2 (June)** | Programming with VB: Procedures: General & event procedures, Subroutines, Functions, calling procedures, |
| **Week 3 (June)** | Arguments- passing mechanisms, Optional arguments, named arguments, Functions returning custom data types |
| **Week 4 (June)** | Working with forms: Adding multiple forms in VB, Hiding & showing forms, Load & unload statements, Activate & deactivate events, Form-load event, |
| **Week 5 (June)** | Menu designing in VB, Database Programming using DAO & ADO, Simple Active X Controls  **Test and revision on Unit 4** |

**Lesson Plan**

**Class – B.Sc (Pass Course Computer Sc.) 6thSem**

**Faculty – Ms. Navita**

**Subject –Visual Basic Programming and Software Engineering**

**Paper Code- 6.1& 6.2**

**Lesson Plan Duration - From April 2022 to June 2022**

|  |  |
| --- | --- |
| **Time Period** | **Topics** |
| **Week 1 (April)** | Electronic Commerce: Overview of Electronic Commerce, Scope of Electronic Commerce, Traditional Commerce vs. Electronic Commerce, Impact of E-Commerce, |
| **Week 2 (April)** | Electronic Markets, Internet Commerce, e-commerce in perspective, Application of E Commerce in Direct Marketing and Selling |
| **Week 3 (April)** | Obstacles in adopting E-Commerce Applications; Future of E-Commerce.  **Test and Assignment on Unit -1** |
| **Wee 4 (April)** | Value Chains in electronic Commerce, Supply chain, Porter’s value chain Model, Inter Organizational value chains, Strategic Business unit chains, Industry value chains., |
| **Week 1 (May)** | Security Threats to E-commerce: Security Overview, Computer Security Classification, Copyright and Intellectual Property, security Policy and Integrated Security |
| **Week 2 (May)** | Intellectual Property Threats, electronic Commerce Threats, Clients Threats, Communication Channel Threats, server Threats.  **Assignment and Test on Unit -2** |
| **Week 3 (May)** | Implementing security for E-Commerce: Protecting E-Commerce Assets, Protecting Intellectual Property, |
| **Week 4 (May)** | Protecting Client Computers, Protecting E-commerce Channels, Insuring Transaction Integrity, Protecting the Commerce Server. |
| **Week 1 (June)** | Electronic Payment System: Electronic Cash, Electronic Wallets, Smart Card, Credit and Change Card  **Revision and Test on Unit -3** |
| **Week 2 (June)** | Business to Business E-Commerce: Inter-organizational Transitions |
| **Week 3 (June)** | Credit Transaction Trade Cycle, a variety of transactions |
| **Week 4 (June)** | Electronic Data Interchange (EDI): Introduction to EDI, Benefits of EDI, EDI Technology, EDI standards, EDI Communication, EDI Implementation, EDI agreement, EDI security.  **Test and revision on Unit 4** |
| **Week 5 (June)** | **Presentation and Query (Presentation and Quey)** |

**Lesson Plan**

**Class -MA Hindi/MA Geo/MA History (2nd Sem)**

**Faculty –Dr.SubitaKumari**

**Subject -Computer Fundamentals 16CSAF1**

**Lesson Plan Duration - From April 2022 to June 2022**

|  |  |
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| **Time Period** | **Topics** |
| **1st Week of April** | Overview of Data Processing, History of Computing, Computer Generations, Characteristics of Computer, Anatomy of Computer, Classification of Computers |
| **2ndWeek of April** | Introduction, Number Systems and its types, and inter-conversion of Number Systems, ASCII and EBCDIC codes |
| **3rdWeek of April** | Concept of Input/Output, Types of Input Devices; ; Output Devices – Printers, Plotters and Monitors. Test-unit1 |
| **4thWeek of April** | Characteristics of memory systems, memory hierarchy,Concept of Cache Memory and Virtual Memory, Software Types, Language translators, System Utility Software, Application Software;**Assigment1**-Types of Memory – RAM, ROM, etc.; Magnetic Disks, Magnetic Tapes, Optical Disks; |
| **1st Week of May** | Operating System – Characteristics, its functions, and its classification; User Interfaces – CUI and GUIs. DOS and Windows operating systems. |
| **2ndWeek of May** | Using Word Processing: Opening and Closing of documents, Text creation and Manipulation, Moving Around in a Document, Formatting of text, Table handling, Spell check, language setting and thesaurus, Handling Multiple Documents, Printing of word document. |
| **3rdWeek of May** | Using Spreadsheet tool: Basics of Spreadsheet; Manipulation of cells, Formulas and Functions, Editing of Spread Sheet, Page setups, header and footer, printing of Spread Sheet. |
| **4thWeek of May** | Using Slide Presentation Tool: Basics of powerpoint, Preparation and Presentation of Slides, Slide Show, Formatting and Clip Arts, Taking printouts of presentation / handouts. Test-unit2 |
| **1st Week of June** | Communication and Networks: Data Communication, Transmission Modes, Basics of Computer networks, **Assigment2-** types of computer network - LAN, MAN, WAN; Network Topologies and Applications of Computer Networks |
| **2ndWeek of June** | Internet Basics: Concept of Internet, Application of Internet, WWW, Web-sites and URLs, Search Engine, Using Electronic mails, Instant Messaging, Web Browsing software, Surfing the Internet. Test-unit3 |
| **3rdWeek of June** | . Social Concern: Positive and Negative Impacts of Computer Technology, Computer Crimes, Computer Virus: Definition, **Assigment3-**Types of viruses, Characteristics of viruses, anti- virus software. |
| **4thWeek of June** | Computer Applications: Data Analysis, Sports, Research, Education, Business, Medicines & Health Care, Weather Forecasting, Military |

NameofAssistantProfessor: Dr. SubitaKumari

ClassandSection: M.Sc2ndSem

Subject: ObjectOrientedProgrammingUsingC++

PaperCode: 16MCS22C2

**LessonPlan**:12Weeks (April2022toJune2022)

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| **Week1** |
| ObjectOrientedProgrammingConcepts:ProceduralLanguageandObject Oriented  Approach.Characteristics of OOP: Objects, classes, Encapsulat ion, Data Abstraction,Inheritance, Polymorphism,DynamicBinding,MessagePassing , Revisionandassignmentrelatedto abovetopics |
| **Week2** |
| Structure of C++ program: Data-types, Variables, StaticVariables,OperatorsinC++,Arrays,Strings , Test of Unit 1 |
| **Week3** |
| Structure,Functions,Recursion,ControlStatements ,Classes:Class,object,MemoryAllocationforObjects,memorylayoutofobjects,Revisionand assignment relatedtoabove topics |
| **Week4** |
| Private,public,protectedmember functions, static members.Revisionandassignmentrelated toabove topics |
| **Week5** |
| Constructors:Features,types,dynamicconstructor,Parameterizedconstructors;destructors.,Test 2 |
| **Week6** |
| Memorymanagement:DynamicMemoryallocation:new,delete,ObjectCreationat  RunTime; This Pointer. |
| **Week7** |
| Inheritance:DerivedClassandBaseClass,DifferenttypesofInheritance, ProblemDiscussion |
| **Week8** |

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|  | Overridingmember function,Public and Private Inheritance,Ambiguity inMultipleinheritance,VirtualInheritance,Abstract Class.Problem Discussion |
| **Week9** |
| Polymorphism:Definition, operatoroverloading, OverloadingUnaryandBinary Operators,Test |
| **Week10** |
| Functionoverloading,Virtualfunction,Friendfunction,Staticfunction, Exceptionhandling:Throwing,Catching,Re-throwinganexception,specifyingexceptions; processing unexpected exceptions; |
| **Week11** |
| Exceptions when handling exceptions,resourcecaptureandrelease, Templates:Introduction;Classtemplates;Functiontemplates;Overloadingoftemplate  function,namespaces. |
| **Week12** |
| IntroductiontoSTL:StandardTemplateLibrary:benefitsofSTL;containers,adapters,  iterators,vector,lists.,Problemdiscussion,Sessional |

**Lesson Plan**

**Class - APGDCA (Sem. 2)**

**Faculty - Ms. Vandna**

**Subject - Visual C++**

**Lesson Plan Duration - From April 2022 to June 2022**

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| **Time Period** | **Topics** |
| **Week 1** | Visual C++ Basic: Introduction, Building a Basic Application, SDI and MDI.  Assignment |
| **Week 2** | Writing text and drawing graphics, Message boxes, Keyboard and its messages, mouse and its messages. |
| **Week 3** | Visual C++ Resources Creating Icons, Cursor and Bitmaps. |
| **Week 4** | Menu and Accelerators, Toolbar, Status bar. Revision and taking queries of student, Test |
| **Week 5** | Programs in Visual C++, Introduction to Child Window Controls. Check boxes, buttons, list box |
| **Week 6** | Programs on button and list box, Static Control, Combo box, Edit box, Scroll bars.  Assignment |
| **Week 7** | Dialog Box: model and modeless dialog box, mechanism of dialog box |
| **Week 8** | Property page and property sheet, Revision and taking queries of student, Test, Assignment |
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| **Week 9** | Advance Window Controls: Toolbars up down controls, Spin control |
| **Week10** | Progress bar, Tree view, Tab controls, Tool tip |
|  | Slider control, image list control. Revision and taking queries of student, Assignment, Test |
| **Week 11** | Working with Graphics, Consoles, Multitasking Process and Threads |
| **Week 12** | Clipboard Drag and Drops, Advance features of Windows Programming GDI Metafiles Sound API, DLL, Revision and taking queries of student, Test, Assignment |
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| **Week 13** | **Revision, Presentation** |
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**Lesson Plan**

**Class – Bcom Hons(Sem. 2)**

**Faculty - Ms. Vandna**

**Subject - : Introduction to Computer (Theory) BCH-2.06**

**Lesson Plan Duration - From April 2022 to June 2022**

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| **Time Period** | **Topics** |
| **Week 1** | Computer basic concepts: Definition and characteristics of a computer, Advantages of computer, Components of computer, Human-being Vs computer Difference between Computer and Calculator, Applications of computer, Generations of Computer  Assignment |
| **Week 2** | Types of computer: Analog, Digital and Hybrid computers, Micro, Mini, Mainframe and Super Computers, |
| **Week 3** | Input devices and Output devices, Introduction to Computer memories: Primary storage, Secondary storage. |
| **Week 4** | Introduction to Software: Software Types, Systems Software, Types of Operating System, Application Software, Introduction to Programming Language: Types of Programming Language, Language Translators.  Assignment |
| **Week 5** | Introduction to Software: Software Types, Systems Software, Types of Operating System, Application Software, Introduction to Programming Language: Types of Programming Language, Language Translators. |
| **Week 6** | Computer Network: Introduction, Network Elements, Advantages of Networking, Network Topologies, Communication Channels, |
| **Week 7** | Types of Computer Networks- LAN, MAN and WAN , Public and Private Network., Internet: Introduction, History of Internet, Benefits of the Internet, Hardware and Software requirement for Internet, Internet Applications or services of Internet |
| **Week 8** | Types of Internet Connection, Internet Addressing, Extranet and E-Mail, Mobile Computing Creating own document-, Formatting text and document, Mail Merge, Creating a Macro,Working with auto shapes, Export and Import File, Finding and replacing text, Spell Check and Grammar Check  Assignment |
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| **Week 9** | Working within tables- Adding, deleting, modifying rows and columns, Printing documents. Internet: Introduction, History of Internet, Benefits of the Internet, Hardware and Software requirement for Internet, Internet Applications or services of Internet, Types of Internet Connection, Internet Addressing, Extranet and E-Mail, Mobile Computing. |
| **Week10** | MS Excel: Features of MS Excel, Components of Worksheet, Menu Bars, Working with worksheets-cells-Entering ,editing, moving, copying, cutting, pasting, Inserting and deleting of cells, rows and columns, Formatting a worksheet, Formatting textual data, Creating and editing charts, Types of Chart |
| **Week 11** | Excel Functions, Goal Seek, validation, Pivot Table and Pivot Chart, Sort, Filter, Print the worksheet. Introduction to Database Systems: Basic concepts, Components of database, Advantage |
| **Week 12** | DBMS, Components of DBMS, Database Models, Microsoft Access: Create a database, Database Objects, Creating tables, Data Types, Sorting, Filtering and 17 Creating a relationships, Format a table, Creating and modifying a Form, Operators in Access, Designing Queries and Reports. P |
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| **Week 13** | **Revision, Presentation** |
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**Lesson Plan**

**Class - APGDCA (Sem. 2)**

**Faculty - Ms. Vandna**

**Subject - Visual C++**

**Lesson Plan Duration - From April 2022 to June 2022**

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| **Time Period** | **Topics** |
| **Week 1** | Visual C++ Basic: Introduction, Building a Basic Application, SDI and MDI.  Assignment |
| **Week 2** | Writing text and drawing graphics, Message boxes, Keyboard and its messages, mouse and its messages. |
| **Week 3** | Visual C++ Resources Creating Icons, Cursor and Bitmaps. |
| **Week 4** | Menu and Accelerators, Toolbar, Status bar. Revision and taking queries of student, Test |
| **Week 5** | Programs in Visual C++, Introduction to Child Window Controls. Check boxes, buttons, list box |
| **Week 6** | Programs on button and list box, Static Control, Combo box, Edit box, Scroll bars.  Assignment |
| **Week 7** | Dialog Box: model and modeless dialog box, mechanism of dialog box |
| **Week 8** | Property page and property sheet, Revision and taking queries of student, Test, Assignment |
|  |  |
| **Week 9** | Advance Window Controls: Toolbars up down controls, Spin control |
| **Week10** | Progress bar, Tree view, Tab controls, Tool tip |
|  | Slider control, image list control. Revision and taking queries of student, Assignment, Test |
| **Week 11** | Working with Graphics, Consoles, Multitasking Process and Threads |
| **Week 12** | Clipboard Drag and Drops, Advance features of Windows Programming GDI Metafiles Sound API, DLL, Revision and taking queries of student, Test, Assignment |
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| **Week 13** | **Revision, Presentation** |
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**Lesson Plan**

**Class – Bcom Hons(Sem. 2)**

**Faculty - Ms. Vandna**

**Subject - : Introduction to Computer (Theory) BCH-2.06**

**Lesson Plan Duration - From April 2022 to June 2022**

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| **Time Period** | **Topics** |
| **Week 1** | Computer basic concepts: Definition and characteristics of a computer, Advantages of computer, Components of computer, Human-being Vs computer Difference between Computer and Calculator, Applications of computer, Generations of Computer  Assignment |
| **Week 2** | Types of computer: Analog, Digital and Hybrid computers, Micro, Mini, Mainframe and Super Computers, |
| **Week 3** | Input devices and Output devices, Introduction to Computer memories: Primary storage, Secondary storage. |
| **Week 4** | Introduction to Software: Software Types, Systems Software, Types of Operating System, Application Software, Introduction to Programming Language: Types of Programming Language, Language Translators.  Assignment |
| **Week 5** | Introduction to Software: Software Types, Systems Software, Types of Operating System, Application Software, Introduction to Programming Language: Types of Programming Language, Language Translators. |
| **Week 6** | Computer Network: Introduction, Network Elements, Advantages of Networking, Network Topologies, Communication Channels, |
| **Week 7** | Types of Computer Networks- LAN, MAN and WAN , Public and Private Network., Internet: Introduction, History of Internet, Benefits of the Internet, Hardware and Software requirement for Internet, Internet Applications or services of Internet |
| **Week 8** | Types of Internet Connection, Internet Addressing, Extranet and E-Mail, Mobile Computing Creating own document-, Formatting text and document, Mail Merge, Creating a Macro,Working with auto shapes, Export and Import File, Finding and replacing text, Spell Check and Grammar Check  Assignment |
|  |  |
| **Week 9** | Working within tables- Adding, deleting, modifying rows and columns, Printing documents. Internet: Introduction, History of Internet, Benefits of the Internet, Hardware and Software requirement for Internet, Internet Applications or services of Internet, Types of Internet Connection, Internet Addressing, Extranet and E-Mail, Mobile Computing. |
| **Week10** | MS Excel: Features of MS Excel, Components of Worksheet, Menu Bars, Working with worksheets-cells-Entering ,editing, moving, copying, cutting, pasting, Inserting and deleting of cells, rows and columns, Formatting a worksheet, Formatting textual data, Creating and editing charts, Types of Chart |
| **Week 11** | Excel Functions, Goal Seek, validation, Pivot Table and Pivot Chart, Sort, Filter, Print the worksheet. Introduction to Database Systems: Basic concepts, Components of database, Advantage |
| **Week 12** | DBMS, Components of DBMS, Database Models, Microsoft Access: Create a database, Database Objects, Creating tables, Data Types, Sorting, Filtering and 17 Creating a relationships, Format a table, Creating and modifying a Form, Operators in Access, Designing Queries and Reports. P |
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| **Week 13** | **Revision, Presentation** |
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Name ofAssistantProfessor: Lalita Yadav

ClassandSection: BCA 4thSem

Subject: OOPs

PaperCode: 208

**Lesson Plan**: April 1 to June 30

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| Week 1: |
| Object Oriented Programming Concepts : Procedural Language and Object Oriented approach, Characteristics of OOP, user defined types, polymorphism and encapsulation. |
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| Week 2: |
| Getting started with C++: syntax, data types, variables, string, function, |
| **Week 3:** |
| namespace and exception, operators, flow control, recursion, array and pointer, |
| Week 4 : |
| UNIT-II Abstracting Mechanism: classes, private and public, Constructor and Destructor , member function, static members, references |
| Week 5 : |
| Memory Management: new, delete, object copying, copy constructer, assignment operator, this input/output |
| Week 6 : |
| UNIT-III Inheritance and Polymorphism: Derived Class and Base Class, Different types of Inheritance, |
| Week 7 **:** |
| Overriding member function, Abstract Class, Public and Private Inheritance, Ambiguity in Multiple inheritance , |
| Week 8 : |

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| Virtual function, Friend function, Static function. |
| Week 9 : |
| UNIT-IV Exception Handling: Exception and derived class, function exception declaration, |
| Week 10 : |
| unexpected exception, exception when handling exception, resource capture and release. |
| Week 11 : |
| Template and Standard Template Library: Template classes, declaration, |
| Week 12 : |
| template functions, namespace, string, iterators, hashes, iostreams and other types,  . |
| Week 13 : |
| Revision , Assignment and Test . |

Name ofAssistantProfessor: Lalita Yadav

ClassandSection: B.Sc 4thSem

Subject: Operating Systems

PaperCode: 4.2

**Lesson Plan**: April 1 to June 30

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| Week 1: |
| Introductory Concepts: Operating system functions and characteristics, historical evolution of operating systems, |
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| Week 2: |
| types of Operating System: Real time, Multiprogramming, Multiprocessing, Batch processing, Methodologies for implementation of O/S service |
| Week 3 : |
| system calls, system programs.Process management: Process concepts,  Assignment and Test. |
| Week 4 : |
| operations on processes, Process states and Process Control Block. CPU Scheduling: Scheduling criteria, Levels of Scheduling, Scheduling algorithms, |
| Week 5 : |
| Multiple processor scheduling. Deadlocks: Deadlock characterization, Deadlock prevention and avoidance.  Assignment . |
| Week 6 : |
| Concurrent Processes: Critical section problem, Semaphores, Classical process co-ordination problems and their solutions. |
| Week 7 **:** |
| Inter-process Communications. Storage Management: memory management of single-user and multi-user operating system, partitioning, |
| Week 8 : |

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| swapping, paging and segmentation, Thrashing. |
| Week 9 : |
| File management: File Systems: Functions of the system .  Assignment |
| Week 10 : |
| File access methods and Test |
| Week 11 : |
| allocation methods: Contiguous, allocation, linked, indexed allocation |
| Week 12 : |
| Directory Systems: Structured Organizations, directory and file protection mechanisms. |
| Week 13 : |
| Revision , Assignment and Test . |