LESSON PLAN

Name of Teacher – Vijay Singh

Subject: - Computer Science

Paper – Programming in C, Structured Systems Analysis and Design

Class –BS.C Comp sci. 2nd sem Session:- 2021-2022 (EvenSem.)

Month & Week Contents

Week 1 Basic concepts of programming, techniques of problem solving, algorithm designing and flowcharting, concept of structured programming-Top-Down design

Week 2 Development of efficient program; Program correctness; Debugging and testing of programs, Algorithm for searching, sorting(Insertion,Exchange), Merging of Order-List.

Week 3 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 4 Operators: Arithmetic, relational, logical, bitwise, unary, assignment and conditional operators and their hierarchy & associativity, input/output statements

Week 5 Arithmetic Expression, Evaluation of Arithmetic Expression, Typecasting and Conversion.

Week 6 Decision making & branching: Decision making with if statement, ifelse statement, nested if, else-if ladder, switch statement, goto statement. Decision making & looping: for, while, and do-while loop; Jumps in loop, break, continue.

Week 7 Functions: Definition, prototype, passing parameters, Recursion. Pointers: Declaration, operations on pointers. File Handling: Standard I/O text File, Writing to File, Reading a File.

Week 8 Holi Holidays

Week 9 array of pointers, pointers to arrays. Data Structures: Arrays: One Dimensional, Multidimensional, Pointers and arrays. Strings: String Constants, Input & Output, String Functions. Structure & Unions.

Week 10 Introduction to system, Definition and characteristics of a system, Elements of system, Types of system, System development life cycle, Role of system analyst

Week 11 Analyst/user interface, System planning and initial investigation: Introduction, Bases for planning in system analysis, Sources of project requests, Initial investigation, Fact finding, Information gathering, information gathering tools.

Week 12 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 13 Feasibility study: Introduction, Objective, Types, Steps in feasibility analysis, Feasibility report, Oral presentation, 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 14 System Design: System design objective, Logical and physical design, Design Methodologies, structured design, Form-Driven methodology(IPO charts), structured walkthrough

Week 15 , 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 16 System testing: Introduction, Objectives of testing, Test plan, testing techniques/Types of system tests, Quality assurance goals in system life cycle, System implementation, Process of implementation, System evaluation, System maintenance and its types, System documentation,

Week 17 Revision