B.Sc. III Semester Degree Examination, Nov./Dec. - 2018

COMPUTER SCIENCE

COBOL and System Analysis & Design

Paper : 304 CS

(New)

Time : 3 Hours   Maximum Marks : 80

Instructions to Candidates:

  i)   Answer according to the instructions given.

  ii)   All the sections are **Compulsory**.

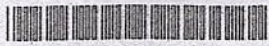## PART - I

I.   Answer any TEN of the following.   (10×2=20)

  1.   Write the syntax of ACCEPT and DISPLAY statements in Cobol.

  2.   Give the General form of IF statement in Cobol.

  3.   Give syntax of MOVE and COMPUTE verb.

  4.   List the Input and Output verbs in Cobol.

  5.   Write the syntax of GOTO DEPENDING ON with an example.

  6.   Write general form of any one sequence control statement.

  7.   What do you mean by Internet, Intranet and Extranet?

  8.   Define system Give an example.

  9.   Who is system Analyst?

  10.   Mention different tasks of system Analyst.

  11.   Why we need computer based information system.

  12.   Draw the diagram for SDLC.

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PART - II

II.   Answer any SIX of the following.   (6×5=30)

   1.   Explain Nesting of IF statement in Cobol.

   2.   Explain structure of Cobol program.

   3.   Explain Literals in Cobol with example.

   4.   Explain characteristics of PICTURE clause.

   5.   List the difference between PERFORM and GOTO statement.

   6.   Explain DFD with example.

   7.   Write a note on structured English.

   8.   Write the advantages of system automation.

PART - III

III.   Answer any THREE of the following.   (3×10=30)

   1.   Explain all arithmetic verbs in Cobol with example.

   2.   Explain PERFORM with VARYING option.

   3.   Write a Cobol program to find largest of three numbers.

   4.   Explain the phases of System Development life cycle.

   5.   Explain types of feasibility with example.

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B.Sc. III Semester Degree Examination, Oct/Nov. - 2019

COMPUTER SCIENCE

Object Oriented Programming with C++

Paper : BSC 301 CS

(NEW)

Time : 3 Hours   Maximum Marks : 60

I. Answer to the following questions in short: (10×1=10)

1) Mention any two advantages of oops?

2) Define class?

3) Define Structures

4) What is destructor?

5) Mention the syntax of declaling a destructor.

6) Define namespace.

7) What is exception handling?

8) Give an example for Pointer to class member.

9) Define Stream.

10) Define inheritance.

II. Answer to any **FIVE** of the following.   (5×10=50)

1. a) Write a note on basic concepts of oops?

    b) What is Inline function?

2. a) What is constructor? What are its types explain any two of them.

    b) What is friend function?

3. a) Explain the concept call by reference and return by reference with example.

    b) What is memory allocation? Explain its types in detail.

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4.   a)   What is Overloading? Explain the concept of overloading with example.

       b)   What is inheritance? Write a CPP Program for single inheritance.

5.   a)   Explain the mechanism of exceptional handling in detail.

       b)   What is template? Explain class templates.

6.   a)   Explain Virtual functions in CPP.

       b)   Write a CPP Program for addition of two complex numbers using the concept of operator Overloading.

7.   a)   What is stream. Explain about formatted I/O stream files.

       b)   What is standard template library explain its components.

B.Sc. III Semester Degree Examination, March/April - 2021
COMPUTER SCIENCE
Object Oriented Programming with C++
Paper : 301 CS
(New)

Time : 3 Hours   Maximum Marks : 60

I. Answer to the following questions in **Short**.   (10×1=10)

1. Mention two Applications of OOPs?

2. Define object.

3. Define Union.

4. What is Constructor?

5. What is Symbolic Constant? How do you declare it?

6. Define Polymorphism.

7. What is Virtual functions.

8. Define Template.

9. Define Stream.

10. What is Standard Template library?

II. Answer to any **Five** of the following.   (5×10=50)

1. a) Write a note on basic concepts of OOPs?
    b) Explain scope resolution operator.

2. a) What is Destructor. Explain in detail.
    b) Explain operator overloading with example.

3. a) Explain Dynamic allocation operators with example.
    b) Define Name Space? Explain Global & Nested Name Space.

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4. a) What is Inheritance? Write a CPP program for single inheritance.
   b) Explain the Mechanism of exceptional handling in detail.

5. a) Write a note on function template.
   b) Write a C++ program to add two distance variables.

6. a) Explain in detail Virtual functions in CPP.
   b) Explain in detail on Header files.

7. a) What is Formatted I/o stream files? Explain in detail.
   b) Explain standard template library.

8. a) Define Iterator? Explain Forward & Backward iterators.
   b) i) Date Abstraction.
      ii) Control structures of C++.

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B.Sc. III Semester Degree Examination, February/March 2022
COMPUTER SCIENCE (New)
Object Oriented Programming with C++

Time : 3 Hours

Max. Marks : 60

I. Answer to the following questions in short. (10×1=10)

    1) Define Class.

    2) Define constructor.

    3) Define Data Encapsulation.

    4) Define Cascading.

    5) Define Inheritance.

    6) What is the use of Scope Resolution Operator ?

    7) Define Static data member.

    8) Define Stream.

    9) Define Virtual Function.

    10) Write a syntax to create a object.

II. Answer to **any five** of the following : (5×10=50)

    1) a) Write a note on basic concepts of OOPS.

       b) Explain Inline function with examples.

2) a) Explain the difference between C and C++.

   b) Explain parameterized constructor with example.

3) a) Explain multiple inheritance with example.

   b) Explain function template with example.

4) a) Write a C++ program to convert decimal to binary using class concept.

   b) Explain Standard Templates Library.

5) a) Explain exception handling in detail.

   b) Explain function overloading with example.

6) a) What is memory allocation ? Explain its type.

   b) What is Stream ? Explain stream formatted input output files.

7) a) Explain rules/restriction for operator overloading.

   b) Explain the structure of C++.

8) a) Explain in detail virtual functions in CPP.

   b) Explain in detail on Header Files.

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B.Sc. III Semester Degree Examination, February/March- 2023
COMPUTER SCIENCE
Design and Analysis of Algorithms

Time : 3 Hours   Maximum Marks : 60

Instructions to Candidates :
1. Part - A : **All** questions are compulsory.
2. Part - B : Answer any **five** full questions.

PART - A

I.   Answer all **TEN** questions.   (10×1=10)

1. List out algorithm techniques.
2. What is best case complexity?
3. What is Knapsack problem?
4. What is Kruskal's algorithm?
5. What is Big 'Oh' notation?
6. Explain Greedy method.
7. Define feasible and optimal solution.
8. What is minimum cost spanning tree?
9. Define all pair shortest path.
10. What is the property of NP complete problem?

PART - B

II. Answer any Five questions.   (5×10=50)

1. a. Explain the various criteria used for analyzing algorithms.   (5)

    b. List out the properties of various asymptotic notations.   (5)

2. a. Write Divide - and - Conquer recursive merge - sort algorithm and drive the time complexity of algorithm.   (5)

    b. Illustrate Binary search algorithm with an example.   (5)

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3. a. Explain Quick sort algorithm with example.   (5)

    b. Multiply the following two matrices using Strassen's matrix multiplication.

$$A = \begin{bmatrix} 6 & 8 \\ 9 & 7 \end{bmatrix}, B = \begin{bmatrix} 2 & 5 \\ 3 & 6 \end{bmatrix}.$$ (5)

4. a. Find the optimal solution for the following Knapsack problem using Divide - and - conquer.

        Capacity (M) = 30, number of items (n) = 3. Weights are (10,20,30) and profits (12, 20, 24).   (5)

    b. Find the optimal solution using greedy for job sequencing with deadline problem with following values, n = 5, profit = {10,3,33,11,40} Deadline = {3,1,1,2,2}.(5)
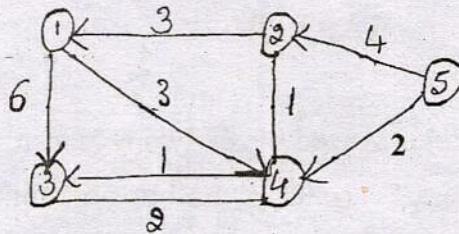
5. a. What is Spanning tree? Explain prim's minimum cost spanning tree algorithm with suitable algorithm.   (5)

    b. Draw Kruskal's minimum cost spanning tree for following graph.   (5)
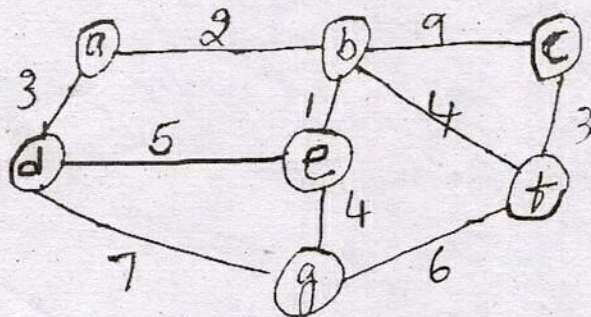
6. a. Write Dijkstra's single source shortest path algorithm analyse the complexity.(5)

    b. Solve all pairs shortest paths problem for the following graph using Dijkstra's algorithm.   (5)

7. a. Draw the state space tree for 4 - Queen's problem.   (5)

    b. Explain the algorithm to solve N-queen's problem.   (5)