सत्रीय कार्य / Assignment Work – 2019-20

MCA (First Year)

Max Marks – 30   **Min Marks - 12**

निर्देश : सत्रीय कार्य के प्रत्येक विषय में कुल 30 अंक हैं । सभी प्रश्नों के अंक समान होंगे । सभी प्रश्न हल कीजिए । (Assignment Work of each paper carries 30 Marks. All questions carry equal marks. Attempt all questions.)

Paper – I (Computer Architecture)

1. What do you understand by Digital Computers?

2. Write short notes on Integer and Floating Point Representation with suitable example.

3. What do you know about combinational circuit? What is universal gate?

4. Explain the three methods of Data Transfer.

5. What is the method of creating K-map? Write the steps to simplify the K-map.

Paper – II (Object Oriented Programming with C++)

1. Explain Object Oriented Paradigm.

2. What are the main features of C++ language? Explain in detail.

3. What is a friend function? Explain with a suitable example when a class becomes a friend class.

4. Explain the difference between compile time and run time polymorphism.

5. Explain protected base class inheritance with the help of an example.

Paper – III (Data Structure with C++)

1. Explain space complexity and time complexity with the help of examples.

2. What are the operations performed on Stack?

3. What do you mean by Queue? Explain its types with their advantages and disadvantages.

4. Explain the use of threaded binary tree with an example.

5. Explain the following operations with reference to circular linked list: Traversing and Searching.

Paper – IV (Operating System)

1. What are the functions of Operating System?

2. Explain Bankers Algorithm with suitable example. What do you understand by safe and unsafe state?

3. Explain advantages of parallel systems with respect to

    (i) Increasing performance   (ii) cost reduction   and   (iii) increasing reliability.

4. What is input output hardware? Explain.

5. What do you understand by file-sharing? Discuss.

Paper – V (Discrete Mathematics)

1. Explain the application of fundamental connective to switching circuit.

2. If B=[1,2,3,6,7,14,21,42] and for a, b, c, B, a+b and a.b denote the LCM and GCD, then show that triple [B, +,.] is a Boolean Algebra.

3. Prove the following :   (a) A-(B-C) = (A-B) ∪ (A∩C)   (b) A⊂B = B'⊂A'

4. Does there exist a 4-regular graph with 10 edges? If so, draw its diagram.

5. Examine if the following set of vectors of v_3(R) is linearly independent or linearly dependant.

   S = {(0, -2, 4), (1, -2, -1), (1, -4,3)}

Paper – VI (RDBMS & SQL)

1. What do you understand by Data Abstraction?

2. Explain the general operation union and intersection of a set.

3. What do you mean by degree of an entity? With help of an example explain weak and strong entity?

4. How functional dependency is helpful to decompose the relation. Give suitable example.

5. Describe the block structure of SQL with an example.

Or

Explain Database Recovery System in Database Management system.

****