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[5057]-264

S.E. (I.T.) (First Semester) EXAMINATION, 2016

PROBLEM SOLVING AND OBJECT ORIENTED

PROGRAMMING CONCEPTS

(2012 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— (i) Answer Q. No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4,
Q. No. 5 or Q. No. 6, Q. No. 7 or Q. No. 8.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) Assume suitable data, if necessary.

1. (a) Write a solution to the problem of finding the largest number out of three numbers. Develop algorithm, flowchart, interactivity, chart, input-output chart. Also list down *three* advantages of algorithm and flowchart. [6]
- (b) What are the various types of modules ? Explain the term coupling and cohesion related to module. [6]

Or

2. (a) Name *three* current problems in your life that could be solved through an algorithmic process. Explain why each of these problems is algorithmic in nature. [6]
- (b) Explain data dictionary with example. [6]

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3. (a) What do you mean by dynamic initialization of objects ? Explain it with example. [6]
- (b) What is the meant by an ordered array ? Write an algorithm to remove duplicate elements from an ordered array. [6]

Or

4. (a) Define constructor and destructor. Explain various types of constructors with syntax. [6]
- (b) Differentiate between Procedural Oriented Programming and Object Oriented Programming. [6]
5. (a) Explain need of operator overloading. Write C++ program to demonstrate use of unary operator overloading. [6]
- (b) Write a C++ program to calculate the area of circle, rectangle and triangle using function overloading. [7]

Or

6. (a) Explain virtual base class with example. [6]
- (b) What is inheritance ? Explain types of inheritance. [7]

7. (a) Write a note on STL. [7]
- (b) What is exception handling mechanism in C++ ? Write a program in C++ to handle “divide by zero” exception. [6]

Or

8. (a) Explain sequence container and associative container. [6]
- (b) Write a program in C++ for bubble sort using function template. [7]