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Seat No.	
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S.E. (Information Technology) (Semester – I) Examination, 2014
PROBLEM SOLVING AND OBJECT ORIENTED PROGRAMMING CONCEPTS
(2012 Course)

Time : 2 Hours

Max. Marks : 50

- Instructions :** 1) Answer Question 1 or 2, 3 or 4, 5 or 6, and 7 or 8.
2) **Neat** diagrams must be drawn **wherever** necessary.
3) Figures to the **right** side indicate **full** marks.
4) **Assume** suitable data if **necessary**.

1. a) What are the two ways of sending data from one module to another module through the use of parameters ? Explain with suitable example. 4
b) Explain the concept of local variable and global variable with suitable example. 4
c) In a multiplex the charges for a movie varies according to the age of the persons. Using the positive logic, develop a solution to print the ticket charges given the age of person : 4

Age	Charges
Over 55	Rs. 150
21 – 54	Rs. 200
13 – 20	Rs. 150
3 – 12	Rs. 100
Under 3	Free of cost

OR

2. a) What are the six steps of problem solving ? 6
b) Explain in brief about decision table using suitable example. 4
c) Set up an equation to calculate : 2
i) The average of 3 numbers
ii) The sale price of an item given an original price and a discount percentage.
3. a) Explain the algorithm for reversing the elements of an array. 6
b) Explain the various features of Object Oriented Programming. 6

OR

P.T.O.



4. a) Define a Class Bank Account having data members and member functions as : 6

Data members :

- 1) Name of depositor
- 2) Account number
- 3) Type of account
- 4) Balance amount in the account.

Member functions :

- 1) To assign initial values
- 2) To deposit an amount
- 3) To withdraw an amount after checking the balance
- 4) To display name and balance.

- b) Write a short note on : 6

- 1) Table Lookup technique
- 2) Pointer technique.

5. a) What is inheritance ? What are different types of inheritance ? 6

- b) Explain constructor and destructor. What is need of virtual destructor ? 7

OR

6. a) Write a C++ program to subtract 2 complex numbers using concept of overloading using friends function. 7

- b) Explain early binding and late binding. 6

7. a) Explain Standard Template Library (STL). 6

- b) Write a C++ program to swap two numbers using concept of function template. 7

OR

8. a) Explain unformatted I/O, formatted I/O in detail. 6

- b) How to catch multiple exceptions ? Write a fragment of code to explain same concept. 7