

17432

14115

3 Hours / 100 Marks

Seat No.

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Instructions : (1) All Questions are *compulsory*.

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

Marks

1. Attempt any TEN of the following :

20

(a) Write any two characteristics of procedure oriented programming.

(b) Define class with it's syntax.

(c) Write any two rules to define friend function.

(d) What is copy constructor ?

(e) State different visibility modes used in inheritance.

(f) What is pure virtual function ?

(g) Define polymorphism. List types of polymorphism.

(h) What is the significance of scope resolution operator ?



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- (i) Define pointer variable. Give its syntax.
- (j) Define a structure with its syntax.
- (k) List any four object oriented languages.
- (l) Write any two characteristics of static member function.
- (m) What is an abstract base class ?
- (n) How do we invoke a constructor ?

2. Attempt any FOUR of the following :

16

- (a) Explain how memory is allocated to an object of a class with diagram.
- (b) Write any four rules to define constructor in a class.
- (c) Write a program to find reverse of a string using pointer to string.
- (d) Differentiate between OOP and POP.
- (e) Write a program to overload binary ++ operator.
- (f) Write a program that illustrates multiple inheritance.

3. Attempt any FOUR of the following :

16

- (a) Explain virtual base class in inheritance with suitable diagram.
- (b) Differentiate between compile time polymorphism and runtime polymorphism.
- (c) Write a program to define a class student having data members name and roll no. Accept and display data for one object.

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- (d) Write a program to calculate area of circle and area of rectangle using function overloading.
- (e) Write any four features of object oriented programming.
- (f) Explain pointer arithmetic with example.

4. Attempt any FOUR of the following :

16

- (a) What is destructor ? Give it's syntax. How many destructors can be defined in a single class ?
- (b) State different types of inheritance with diagram.
- (c) Write a program to declare a class staff having data members as name and post. Accept and display data for five staff members. (Using array of object)
- (d) Explain the concept of this pointer.
- (e) State any four rules for operator overloading.
- (f) Explain object as function argument.

5. Attempt any FOUR of the following :

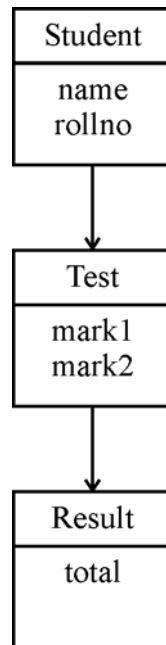
16

- (a) How many ways we can define member function in class ? Give it's syntax.
- (b) Differentiate between structure and class.
- (c) Why do we need virtual functions ?
- (d) Write a program to search a number from an array using pointer to array.
- (e) Explain single inheritance with program.
- (f) Explain constructor with default argument.

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6. Attempt any TWO of the following :**16**

- (a) Identify the type of inheritance shown in following fig.-1. Implement it by using suitable member function.

**Fig.-1**

- (b) Write a program to declare a class birthday having data members day, month, year. Accept this information for five objects using pointer to the array of objects.
- (c) Explain overloaded constructor in a class with suitable example.
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