

17432

21718

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.

Marks

1. (A) Attempt any SIX of the following : 12

- (a) State any four object oriented programming language.
- (b) Define pointer. Give syntax for declaration of pointer.
- (c) List any two properties of static member function.
- (d) What is the importance of constructor ?
- (e) Define polymorphism. List types of polymorphism.
- (f) Define abstract class.
- (g) What is the use of this pointer ?
- (h) How do we invoke a constructor function ?

(B) Attempt any TWO of the following : 8

- (a) Write a program to declare class having data member as hrs, mins, secs.
Write constructor to assign values and destructor to destroy values.
Accept & display data for one object.
- (b) What is virtual base class ? Explain with suitable diagram.
- (c) Describe multiple constructor by giving example.

2. Attempt any FOUR of the following :**16**

- (a) Give four differences between structure and class.
- (b) Explain concept of function overriding with example.
- (c) Write a program to implement single inheritance. Declare base class employee with Emp_No. and Emp_Name. Declare derived class fitness with height and weight. Accept and display data for one employee.
- (d) List features of procedure oriented programming.
- (e) Why friend function is required ? Give four characteristic of friend function.
- (f) Write a program to swap two integer values by using call by reference.

3. Attempt any FOUR of the following :**16**

- (a) Explain data encapsulation and data abstraction.
- (b) Explain the concept of overload constructor in class with example.
- (c) What is inheritance and explain visibility modes in detail.
- (d) Write a program for overloading of ++ unary operator for inch to feet conversion. 12 inchs = 1 feet.
- (e) Write a program to copy content of one string to another string using pointer to string.
- (f) Differentiate between call by value and call by reference method.

4. Attempt any FOUR of the following :**16**

- (a) What is abstract class ? Give one example of abstract class.
- (b) Write a program to declare class student having data members name and percentage. Write constructor to initialize these data members. Accept and display this data for one object.
- (c) Give the syntax and use of following with respect to (i) get() (ii) put().
- (d) Explain the concept of memory allocation for object.
- (e) Explain the following with syntactic rules : (i) public inheritance (ii) protected inheritance.
- (f) Write advantages of pointer.

5. Attempt any FOUR of the following :**16**

- (a) Polymorphism is implemented using function overloading. Justify the statement.
- (b) State characteristic of static data member. Explain why static data member must be defined outside the class.
- (c) Write rules for overloading operator.
- (d) Give four differences between object oriented programming and procedure oriented programming.
- (e) Write a program to search a number from an array using pointer to array.
- (f) What is the need of virtual function ? Explain with example.

P.T.O.

6. Attempt any TWO of the following :

16

- (a) Write a program to show object as function argument.
 - (b) Write a program for multiple inheritance.
 - (c) Write a program to find whether the string is palindrome or not.
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