

**MCA 3rd Semester Examination, 2019**

**MCA**

PAPER – MCA-304

*Full Marks : 100*

*Time : 3 hours*

**Answer Q.No.1 and any five from the rest**

*The figures in the right hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

*Illustrate the answers wherever necessary*

1. Answer any *five* questions : 2 × 5
- (a) What do you mean by reference variable ?
  - (b) Define polymorphism.
  - (c) What is inline function ?
  - (d) What is abstract class ?

- (e) What is the difference between class and object ?
- (f) What do you mean by data abstraction ?
- (g) How static data members are accessed by the objects of a class ?
- (h) What is containership ?

Answer any **five** questions : 12 × 5

2. (a) What is 'this' pointer ?
- (b) How runtime polymorphism is implemented in C++ ?
- (c) What is copy constructor ? Explain with an example. 3 + 6 + 3
3. (a) Define operator function.
- (b) Write a systematic structure to overload any binary operator with friend function.
- (c) What is the difference between a structure and a class. 3 + 6 + 3
4. (a) What do you mean by inheritance ?

(b) How ambiguity is resolved in hybrid inheritance ? Explain with proper example.

(c) What are the advantages of OOPs concepts ?

2 + 6 + 4

5. (a) What is dynamic constructor ?

(b) What is template class ? How default arguments can be used with the template class ?

(c) What is generic class ? What is the difference between function overloading and template class ?

4 + (2 + 2) + (2 + 2)

6. (a) What is constructor overloading ? Write a suitable code to implement the constructor overloading concept.

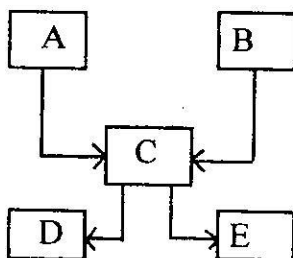
(b) What is an exception ? How it is implemented in OOP ?

(c) What is pure virtual function ?

(2 + 4) + (2 + 2) + 2

7. (a) What is local class ?

- (b) With a proper example explain the function of scope resolution operator in C++.
- (c) What is 'array of object' and 'function returning object' concept ?
- (d) Write down the syntactic structure to implement the following inheritance.



$$2 + 3 + (2 + 2) + 3$$

8. (a) What is destructor ?
- (b) Write down the order of destructor calling for the following :

```

main ( )
{
    Item i1, i2, i3;
    {
        Item i4, i5;
    }
}

```

```

        Item i6, i7;
    {
        Item i8, i9;
    }
}
Item i10 ;
}

```

where 'Item' is the class name.

- (c) What is data hiding in OOP ?
- (d) Write a chart or a table to show how different access specifier in base class are reflected on the derive class. 2 + 3 + 3 + 4
9. (a) Write down the role of the following C++ functions : of stream ( ), ifstream ( ), ofstream ( ), f read ( ) with syntax.
- (b) How CSV file is handled in C ++ ? 6 + 6

[Internal Assessment—30 Marks ]