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TED (15) - 3134 (REVISION - 2015)

| Reg. No. | |
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| Signature | |

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2017

OBJECT ORIENTED PROGRAMMING THROUGH C++

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer all questions in one or two sentences. Each question carries 2 marks

- 1. List primitive data types in C++.
- 2. Write the importance of main function.
- 3. Identify the feature that allows code reusability in object oriented programming.
- 4. List any two operators that cannot be overloaded.
- 5. Define exception.

 $(5 \times 2 = 10)$

PART — B

(Maximum marks : 30)

II Answer any five of the following questions. Each question carries 6 marks.

- 1. Develop a program segment to generate even numbers between 100 and 200 using for statement. Modify it using while and do-while.
- 2. Describe about character arrays in C++.
- 3. Outline the structure of a class.
- 4. Describe data encapsulation and information hiding.
- 5. When is a friend function needed ? Give an example.
- 6. With the help of a program initialize base class members through a derived class constructor.
- 7. Explain multiple inheritance.

 $(5 \times 6 = 30)$

[P.T.O.



PART - C

(Maximum marks : 60)

(Answer one full question from each unit. Each full question carries 15 marks.)

Unit — I

| III (a) I | Describe | the fol | llowing | -020 |
|-----------|----------|---------|---------|------|
|-----------|----------|---------|---------|------|

| (i |) keyword | (ii) identifier | (iii) | preprocessor directive | 9 | |
|--|-----------|-----------------|-------|------------------------|---|--|
| (b) Array is a homogeneous aggregate. Justify. | | | | | | |

OR

9 6

9

6

6

6

(b) Explain structures in C++.

IV (a) List bitwise, relational and logical operators.

UNIT - II

| v | (a) | Design a class point with member variables x and y. Write constructors to initialise the member variables to zero and to different values. Write a member function to display the x and y values. | 9 |
|---|-----|---|---|
| | (b) | Differentiate between private and public access specifiers. | 6 |
| | | Or | |
| | | C (1) into the functions and | |

VI (a) Demonstrate with C++ program for (i) passing objects to functions and 9 (ii) returning objects. 6

(b) Explain function prototyping with an example. Specify its use.

UNIT - III

| VII | (a) | Explain different | types | of inheritance | with | block | diagram | and | an | example | |
|-----|-----|-------------------|-------|----------------|------|-------|---------|-----|----|---------|--|
| | | for each. | - | | | | | | | | |

(b) Explain about operator overloading using unary operator.

OR

VIII (a) Develop a class distance to represent distance in meters and centimeters. Write a program to find the sum of two distances using operator overloading. 9

(b) Explain about protected inheritance.

UNIT - IV

IX (a) Explain Template Class. State the need for Template Class. 9 6 (b) Explain virtual functions. OR 9

X (a) Explain with an example how function templates are implemented.

(b) Differentiate compile time binding and run time binding.

Marks