2015

M.Sc.

3rd Semester Examination

APPLIED MATHEMATICS WITH

OCEANOLOGY AND COMPUTER PROGRAMMING

PAPER—MTM-306(U-I)

Full Marks : 25

Time : 1 Hour

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

(Object Oriented Programming with C++)

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

1. Answer any *two* questions of the following :   2×2

   (a) What do your mean by classes in C++ ? Explain with an example.

2

(b) The classes B and D are defined as follows :

class B

```
{
    int a;
    projected:
        int b;
        void getab ();
    public:
        int c;
        void getc ();
};
```

class D: public B

```
{
    int d;
    public:
        void mul ();
        void display ();
};
```

State which data and functions are public in class D.

(c) Explain the following terms :

(i) Function prototyping ;

(ii) Inline functions.

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2. (a) Define single and multiple inheritance. List the merits and demerits of single inheritance over multiple inheritance. 4

(b) What is polymorphism ? List the merits and demerits of using polymorphism in object oriented programming. 4

3. (a) Explain the following functions used in C++ :

(i) get ( ), (ii) open ( ), (iii) fail ( ) 3

(b) Describe, by an example, how the data member of a class can be initialized in C++. 2

(c) Explain private and public sections used in a class. 3

4. (a) Write a program for copying a file to another file. The file names are to be supplied from command line. 5

(b) What are the advantages for using operator overloading in C++ ? 3

(Internal Assessment — 5 Marks)