

M.Sc. (Applied Electronics) First Semester (New) (CBS)
15003 - 1 AE 3 : Objected Oriented Programming C++

P. Pages : 2

Time : Three Hours



AR - 2530

Max. Marks : 80

- Notes :
1. Due credit will be given to neatness and adequate dimensions.
 2. Assume suitable data whenever necessary.
 3. Illustrate your answers whenever necessary with the help of neat sketches.
 4. Use of pen Blue/Black ink/refill only for writing the answer book.

1. a) Write the applications of object oriented programming. 7
- b) Distinguish between the following terms - 6
 - i) Objects and classes
 - ii) Data abstraction and data encapsulation
 - iii) Inheritance and polymorphism

OR

2. a) What is object-oriented programming how is it different from the procedure oriented programming ? 7
- b) How are data and functions organized in an object oriented program ? 6
3. a) What are the advantages of function prototypes in C++ ? 7
- b) Enlist the rules for operator over loading. 7

OR

4. a) Explain Inline function with suitable example. 7
- b) Write a program to add two complex numbers C_1 and C_2 Store the result in C_3 using operator overloading. 7
5. a) What is constructor ? List rules about declaring and using constructors. 7
- b) Describe friend function with example. 6

OR

6. a) Write a program to read and display information of 'n' number of student in tabular form using array of objects. 7
- b) Write the difference between constructor and destructor. 6
7. a) Write a C++ program to design class Number 1 with member functions `getdata()` ; `sum()` ; `avg()` ; and inherit the second class Number 2 publicity from Number 1 class with data member `max()` ; using single level inheritance. 7
- b) What is visibility mode ? What are different visibility mode ? Explain. 6

OR

8. a) What is virtual base class ? With the help of suitable example explain the concept of virtual base class. 7

- b) Explain derived class constructor and destructor with suitable example. 6
9. a) What is polymorphism in C++ ? How is it achieved at compile time and run time ? Explain. 7
- b) What is generic programming ? How is it implemented in C++ ? 7

OR

10. a) What do you mean by pure virtual function ? When do we need it ? 7
- b) What is virtual function ? What are the rules for virtual function ? 7
11. a) Write a program using C++ to display the following output. 7
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- b) Demonstrate the use of function 'width( )' using C++ program segment. 6

OR

12. a) Show how the function 'precision( )' can be use to show the following output using program segment 7
- Precision set to 3 digits
- | VALUE | SQRT-OF-VALUE |
|-------|---------------|
| 1     | 1             |
| 2     | 1.41          |
| 3     | 1.73          |
| 4     | 2             |
| 5     | 2.24          |
- b) Explain the fitting and padding in C++ streams by using suitable program segment. 6

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