NJR/KS/18/3067

Bachelor of Science (B.Sc.) Semester—II (C.B.S.) Examination

COMPUTER SCIENCE

(Object Oriented Programming Using C++)

Compulsory Paper—1

Time : Three Hours] [Maximum Marks : 50

Note :— (1) **All** questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (A) What is inline member function ? How will you make a member function defined outside the class as inline ? 5

   (B) Write a syntax for accessing class members and write a program in C++ which shows member function defined inside the body of the student class. 5

   OR

   (C) Explain access specifiers in C++ with example. 5

   (D) What is static data members ? Write access rules for static data members and static member functions. 5

EITHER

2. (A) What is constructor ? Explain the parameterized constructor with a suitable example. 5

   (B) What is copy constructor ? Explain with example. 5

   OR

   (C) Write a program in C++ which shows the use of destructor. 5

   (D) What is operator overloading ? Write a program in C++ to overload the unary operator '_ _'. 5

EITHER

3. (A) What are dynamic objects ? What is the difference between dynamic memory allocation and dynamic objects ? 5

   (B) What is 'this' pointer ? Write a program demonstrating the use of 'this' pointer. 5

   OR

   (C) What is inheritance ? Explain single inheritance with a suitable example. 5

   (D) Write a program in C++ for multilevel inheritance. 5

EITHER

4. (A) What are virtual functions ? Give its advantages and write rules for it. 5

   (B) What is Exception ? List all exceptions with its purpose. 5

   OR

   (C) Explain Abstract class with example. 5

   (D) Write a program in C++ to handle division by zero exception. 5

5. Attempt **all** :

   (A) Explain class and object with example. 2½

   (B) Differentiate between constructor and destructor. 2½

   (C) Draw a labelled diagram for hybrid inheritance and hierarchical inheritance. 2½

   (D) Explain handling uncaught exceptions. 2½