WEST BENGAL STATE UNIVERSITY

B.Sc. Honours 1st Semester Examination, 2018

CMSACOR01T-COMPUTER SCIENCE (CC1)

PROGRAMMING FUNDAMENTALS USING C/C++

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.

GROUP-A

1. Answer any *four* questions from the following: 2×4 = 8

   (a) What is the difference between automatic and static variable in C?

   (b) What is the difference between while and do-while loops in C?

   (c) Distinguish between structure and union in C?

   (d) How a pointer in C is related to an one dimensional array?

   (e) What is an object? How can it be related to a class?

   (f) Why is it necessary to overload an operator?

   (g) Describe the syntax of multiple inheritance. When do we use such an inheritance?

GROUP-B

Answer any *four* questions from the following   8×4 = 32

2. Briefly describe all the storage class specifiers in C with examples.   8

3. (a) What is the significance of virtual base class in C++? Give example.   3

   (b) Differentiate between pointer variable and reference variable with example.   2

   (c) Describe method overloading and method overriding with example.   3

4. (a) How a two-dimensional array can be reduced to a pointer to an array of one-dimensional arrays? Illustrate with example.   4

   (b) What do you mean by generic pointer? How can you use an integer pointer to point a double?   2+2

5. (a) Explain method overriding with a suitable example.   3

  (b) What do you mean by dynamic allocation of memory?   2

  (c) Write a C program to print "%d".   2

  (d) What is the difference between 'endl' and '\n'?   1

6. (a) Write down the properties of static member variables and static member functions.   2+2

  (b) Explain "std::cout".   2

  (c) What do you mean by local class?   2

7. (a) What is an exception? How is an exception handled in C++?   2

  (b) When is a catch(…) handler used?   2

  (c) Write a program that illustrates the application of multiple catch statements.   2

  (d) Can we throw class types as exception? Explain with the help of an example.   2

8. Write short notes on any *two* of the following: 4+4

  (a) Encapsulation

  (b) Copy constructor

  (c) Operator Overloading

  (d) fstream Class.

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