E 7520

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B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2017

Third Semester

Vocational Course—CONCEPTS OF OBJECT ORIENTED PROGRAMMING

(For the Vocational Subject : Computer Application of Model II Physics)

[2013 Admission onwards]

Time : Three Hours

Maximum Marks : 60

Part A (Short Answer Questions)

Answer **all** *questions briefly.*
Each question carries 1 mark.

1. An argument is called default argument only when it has been initialized to zero value.

2. Constructors do not return any value.

3. The logical and relational operators cannot be changed by overloading them.

4. A structure may consist of structure inside it which is known as a nested structure.

5. Building functions and data together is known as data hiding.

6. A vector can store different types of objects.

7. The continue statement inside the loop causes the control to go to the looping.

8. When a C++ program is executed, the function that appears first in the program is executed first ?

(8 × 1 = 8)

Part B (Briefly Answer Questions)

Answer any **six** *questions.*
Each question carries 2 marks.

9. What are the applications of void data type in C++ ?

10. State the rules of naming variables in C++.

11. What are the uses and advantages of function prototypes ?

12. What is that class called which does not have a public constructor ? Give reasons.

13. Can you think of difference between an array of strings and other two-dimensional arrays ? Justify your answer with examples.

14. Give an example to illustrate function overloading.

Turn over

15. What is a destructor ? When are class destructors called ?

16. Explain switch statement in C++, giving example.

17. Differentiate between class and object.

18. What is the effect of member functions in a class ? Explain.

$(6 \times 2 = 12)$

Part C (Problems/Description Questions)

Answer any four questions.
Each question carries 4 marks.

19. Write a "while" loop to display all the two-digit even numbers.

20. Write all the data types in C++, quoting examples.

21. Write a C++ program to read two numbers from the keyboard and display the larger value on the screen.

22. Explain the use of constructors in a class, with a program example.

23. Explain the syntax of looping statements in C++.

24. Of a derived class does not add any data members to the base class, does the derived class require constructors ? Explain.

$(4 \times 4 = 16)$

Part D (Long Essay Questions)

Answer any two questions.
Each question carries 12 marks.

25. Write a program to calculate the series :

$$1 - x + \frac{x^2}{2!} - \frac{x^3}{3!} + \frac{x^4}{4!} - \frac{x^5}{5!} + \frac{x^6}{6!} - \ldots\ldots + \frac{x^n}{n!}.$$

26. Define a structure to store the x and y co-ordinates of a point and to find the co-ordinates of the point which is farthest from the origin.

27. When two resistances R_1 and R_2 are connected in series, the equivalent resistance in $R = R_1 + R_2$ and when they are connected in parallel, $\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2}$. Declare a class to store the resistances and to find the equivalent resistance.

28. Write a function to display all the two digit prime numbers.

$(2 \times 12 = 24)$