2019

B. Sc.

1st Semester Examination

COMPUTER SCIENCE (Honours)

Paper : C 1-P

(Practical)

Programming Fundamentals using C/C++

Set-I

Full Marks : 20 Time : 3 Hours

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

The figures in the margin indicate full marks.

Answer *all* questions.

Answer any one question (on lottery basis) 1×15=15

1. Write a program in C/C++ to print an inverted half pyramid. The no. of rows should be input during runtime.

[Turn Over]

2. Write a program in C/C++ to read a string and determine the no. at vowels and consonents in it.

3. Write a program in C/C++ to read weekday number and print weekday name using switch statement.

4. Write a program in C/C++ to print the first n Fibonacci numbers using recursion. The value of n should be provided by the examiner during runtime.

5. Write a program in C++/C to find the sum at the following series.

$$1+\frac{1}{2!}+\frac{1}{3!}+\frac{1}{4!}+\cdots\frac{1}{n!}$$

6. Write a program in C/C++ to find all the prime integers within a given range.

7. Write a program in C/C++ to determine the binary equivalance of a decimal integer.

8. Write a program to read th marks obtained in three subjects by a student. Calculate the percentage and grade based on the following rule.

grade A : If percentage is greater than 80;

grade B : if percentage is greater than 60 or grade C otherwise.

9. Write a program in C/C++ to calculate x^y without using pow () function.

10. Write a program in C/C++ to read a string and print the same in inverse way.

    [For example, if input is Vidyasagar University, Output should be : VIDYASAGAR UNIVERSITY]

[Viva : 03, PNB : 02]

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Answer any one questions.

1. Write a program in C/C++ to print the following triangle of stars (Take number of rows from the user as an input) 15

```
* * * * * * *
  * * * * *
    * * *
      *
```

2. Write a program in C to compute the sum of the first n terms of the following series, $1 - 2 + 3 - 4 + 5 - ...$ 15

3. Write a C program to calculat factorial of a given number using recursion. 15

4. Write a C program to calculate the sum of the non-diagonal elements of a 2-D array. 15

5. Write a program in C++ to demonstrate operator over loading. 15

6. Write a program in C++ to demonstrate multiple inheritance. 15

7. Write a program in C/C++ to check if a string is palindrome or not. 15

8. Write a program in C/C++ to demonstrate 'call by refrerence' method. 15

9. Write a program to find the LCM of three integers. 15

10. Write a program in C++/C to demonstrate dynamic memory allocation. 15

11. Write a program in C/C++ to reverse an integer. 15

[Viva : 03; PNB : 02]
