

NEW

2016

BCA

1st Semester Examination

C PROGRAMMING LAB

PAPER—1196 (Set-3)

(PRACTICAL)

Full Marks : 100

Time : 3 Hours

The figures in the margin indicate full marks.

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

Illustrate the answers wherever necessary.

Answer any *two* questions
taking *one* from each group.

2×25

Group-A

1. Write a C program to find the no. of occurrences of vowels in a given string. 25

(Turn Over)

2. Write a program to find factorial of a number using recursion. 25
3. Write a program to count the no. of words and blank spaces in a given string. 25
4. Write a C program to swap the value of 2 integer variables a and b and display them. 25
5. Write a program to find the sum of series : 25

$$S = 1 - \frac{2}{3^2} + \frac{2^2}{5^2} - \frac{2^3}{7^3} \dots\dots 50 \text{ terms.}$$

6. Write a program to obtain multiplication of two matrices. 25
7. Write a program to separate all the digits of a five digit numbers. 25
8. Write a program to find all prime numbers upto 100. 25
9. Write a program for reversing a string. 25

10. Write a program to print character A B C as follows :

25

A B C

C B A

B A C

Group-B

11. Write a program to Calculate sum of diagonal elements of matrix using point. 25

12. Write a program to store the record in a hotel as customer name, address, company, period of stay, type of room allotted and room charge. 25

13. Write a program to solve a quadratic equation using switch case statement. 25

14. Write a C program to find the square and cubes of a 2 digit odd number. 25

15. Write a C program that will generate a table of values for the equation. 25

$$f(x, y) = 2e^{x^3} + (23 + y)^x$$

Where $1 \leq x \leq 5$ with an increment 0.5.

and $1 \leq y \leq 5$ with an increment 0.25.

Viva — 15

PNB — 05

Internal Assessment — 30

12. Design a Buffer register and show the following result :

Input = 1010

Output = 1010

13. Design a ripple counter using J-K flip-flop. 30
14. Design a J-K master slave flip-flop and verify its result. 30
15. Design a 4 bit bidirectional shift register. 30
16. Design asynchronous up counter of the following MOD using IC-7476. 30
- (i) MOD 10 (ii) MOD 5
17. Design a clocked SR and J-K flip-flop with preset and clear using NAND gates only. 30
18. Design a 4 bit bidirectional shift register. 30
19. Design AND and OR operation using DTL and establish its truth table. 30
20. Construct astable multivibrator using IC 555 timer. Measure its frequency and duty cycle by CRO.