NEW

2016

BCA

1st Semester Examination

C PROGRAMMING LAB

PAPER—1196 (Set-1)

(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 : 2×25

1. Write a C program to sum all the prime numbers within 1 to 100. 25

2. Write a C program to count the frequency of each character in a word. 25

3. Write a C program to find HCF and LCM of two numbers. 25

4. Write a C program to check whether a number is palindrome or not. 25

5. Write a C program to do the following using recursion :

   (i) Multiplication of two numbers.

   (ii) Addition of 10 natural numbers. 25

6. Write a C program to count the number of words in a sentence of text. 25

7. Find all the leap years within 1900 to 2000. 25

8. Write a C program to create a multiplication table. Example : 25

	1	2	3
1	1	2	3
2	2	4	6
3	3	6	9

9. Write a C program to find the sum of e^x series upto n where $(n \leq 10)$ and $e^x = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \ldots\ldots$ 25

10. Write a C program to remove duplicate (repeated) numbers in an array. 25

11. Write a C program to count number of digit, number of character (alphabetic), number of special character in your address. 25

12. Write a C program to print the following sequence : 25

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1
2  1
3  2  1
4  3  2  1
5  4  3  2  1
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13. Write a C program to convert a decimal number to its equivalent octal number. 25

14. Write a program in C to count number of vowels and consonant in a given string. 25

15. Writ a C program to sort a set of integers using insertion sort. 25

16. Write a C program to concatenate two strings. 25

17. Write a C program that uses a function to implement "call by value" and "call by reference". 25

18. Write a C program to implement a structure "book" that contains a number of data types and display the information of "book". 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.