R7630	Sub. Code
	2BS1C1

B.Voc. DEGREE EXAMINATION, NOVEMBER – 2022.

First Semester

Software Development

FUNDAMENTALS OF C PROGRAMMING

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What is Type Casting?
2. Write any two importance of C language?
3. Define exit and return statement.
4. What is recursion?
5. How to initialize a string?
6. How to crate two-dimensional array?
7. What is void pointer and a null pointer?
8. Define pointer array.
9. Define random file handling functions.
10. What is the use of rewind () functions?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe the structure of C Program.

Or

(b) Draw a flow chart to find the greatest of three numbers.

12. (a) Write short notes on nested function with example.

Or

(b) Write a C program to find the factorial of a given number using recursion.

13. (a) Write a C program to sort the given array elements in ascending order.

Or

(b) Write short notes on reading and writing string.

14. (a) What are the features of pointers? Write a C program to print address of a variable.

Or

(b) Explain the declaration of pointers and pointer to pointer with an example

15. (a) Briefly explain the following preprocessor directives
    (i) #include
    (ii) #define

Or

(b) Write short notes on:

    (i) fseek()
    (ii) ftell () and
    (iii) rewind ().

Part C (3× 10 = 30)

Answer any **three** questions.

16. Briefly explain about C data types.

17. Explain in detail about Pass by value and Pass by reference with examples.

18. Write a C program to multiply two matrices of different order.

19. Describe about Pointers and their operations that can be performed on it?

20. Explain the read and write operations in a file with an example.

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R7631	Sub. Code
	2BS1C2

B.Voc. DEGREE EXAMINATION, NOVEMBER – 2022.

First Semester

Software Development

FUNDAMENTALS OF DIGITAL COMPUTER AND PROGRAMMING

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** the questions.

1. What are the basic gates?

2. Convert the following binary number $(11101)_2$ to decimal number.

3. What are Boolean functions and its types?

4. Define SOP.

5. How can you make D flip flop from RS flip flop?

6. Define T flip flop.

7. What are the types of flow chart?

8. Define algorithm.

9. Write any two rules that should be followed to creating program flow charts.

10. Develop the flow chart to find the area of the square.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Convert (i) $(450.12)_8$ to hexadecimal
(ii) $(C2AE)_{16}$ to octal

Or

(b) What are the applications of XOR gates?

12. (a) Write down the steps to convert Boolean functions into sum of minterms with suitable example.

Or

(b) State and prove De-Morgan's theorem.

13. (a) Explain the working principle of an encoder.

Or

(b) Explain the BCD adder with block diagram.

14. (a) Construct a flowchart to obtain the sum of the first 30 natural numbers.

Or

(b) Design the algorithm to find all even numbers that are divisible by 7 in a range.

15. (a) Design the flowchart to determine the name of the starting day of any given year.

Or

(b) Develop the algorithm to find the product of two matrices.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Convert the following decimal number $(1345.106)_{10}$ to binary, octal and hexadecimal numbers.

17. Explain the method of karnaugh map simplification with don't care condition. Give an example.

18. Example the JK and RS flip flop with a neat diagram and truth table.

19. Draw the flowchart and write the algorithm to a bookseller offers two rate commissions. If the price of a book is below Rs.500, the rate of commission is 12% of the price, otherwise, its is 18% of the price. Develop a procedure to determine the discount and the net price of the book.

20. Develop the flowchart and algorithm to count the number of vowels, consonants, and special characters in a given string.

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