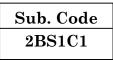
**R7630** 



#### **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**  $(10 \times 2 = 20)$ 

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.

 $\mathbf{Or}$ 

- (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 ().

 $\mathbf{2}$ 

# **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.

**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  $(5 \times 5 = 25)$ 

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

11. (a) Convert (i) (450.12)<sup>8</sup> to hexadecimal (ii) (C2AE)<sub>16</sub> 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.

 $\mathbf{2}$ 

**Part C**  $(3 \times 10 = 30)$ 

Answer any three questions.

- 16. Convert the following decimal number (1345.106)<sub>10</sub> 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.