

**April 2018**

Time - Three hours  
(Maximum Marks: 75)

*[N.B: (1) Q.No. 8 in PART - A and Q.No. 16 in PART - B are compulsory. Answer any FOUR questions from the remaining in each PART - A and PART - B*

*(2) Answer division (a) or division (b) of each question in PART - C.*

*(3) Each question carries 2 marks in PART - A, 3 marks in Part - B and 10 marks in PART - C.]*

PART - A

1. Define algorithm.
2. List the data type qualifiers available in C.
3. Differentiate *while* and *do..while* statements.
4. List any two mathematical functions available in C.
5. What is union? Give an example.
6. Define file and list file operations.
7. List the functions used in dynamic memory allocation.
8. How a pointer variable is defined and declared?

PART - B

9. Draw the flow chart to calculate area of a rectangle.
10. Explain conditional operator with an example.
11. How to declare and initialise a 2-D array?
12. Explain the syntax of *setcolor()*.
13. Explain file inclusion directive with an example.
14. Explain the syntax of *calloc()* function with an example.
15. Explain *fprint()* with an example.
16. How pointer to a structure variable is declared? Explain.

PART – C

17. (a) Discuss the execution process of a 'C' program with a flow chart.

(Or)

(b) Explain the evaluation of an arithmetic expression with an example.

18. (a) Write a 'C' program to print months of a year using *switch...case* expression. (if input=1, output=JANUARY, if input=2, output=FEBRURAY,...)

(Or)

(b) Write a 'C' program to add two 2x2 matrices.

19. (a) Explain the character oriented functions available in 'C'.

(Or)

(b) Explain the two types of function call:  
(i) Call by value (ii) Call by reference.

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20. (a) Write a 'C' program,  
(i) To display the contents of an array using pointer.  
(ii) To add the contents of an array using pointer.

(Or)

(b) Write short notes on:  
(i) Static memory allocation.  
(ii) Dynamic memory allocation.

21. (a) Discuss the input and output functions on files.

(Or)

(b) Write a 'C' program to subtract two numbers using command line arguments.

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