

31. a.i. List the advantages of writing function in C programming.
 ii. Define preprocessor and its directives with suitable examples.

(OR)

- b.i. Define pointer. (4 Marks)
 ii. Write a program to explain the usage of pointer. (8 Marks)
 32. a.i. Explain dynamic memory allocation in detail. (8 Marks)
 ii. Explain Structure within Structure. (4 Marks)

(OR)

- b.i. Write a program to write 'Hello World' to op.txt file.
 ii. Discuss all file opening modes in C programming language with respect to file handling.

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B.Tech. DEGREE EXAMINATION, NOVEMBER 2018
 First Semester

18CSS101J – PROGRAMMING FOR PROBLEM SOLVING
 (For the candidates admitted during the academic year 2018 onwards)

Note:

- (i) Part - A should be answered in OMR sheet within first 45 minutes and OMR sheet should be handed over to hall invigilator at the end of 45th minute.
 (ii) Part - B and Part - C should be answered in answer booklet.

Time: Three Hours

Max. Marks: 100

PART – A (20 × 1 = 20 Marks)
 Answer ALL Questions

- Who is the father of C language?
 (A) Bjarne Stroustrup (B) James A. Gosling
 (C) Dennis Ritchie (D) Dr.E.F.Codd
- In C programming language, which of the following type of operators have the highest precedence.
 (A) Relational operators (B) Equality operators
 (C) Logical operators (D) Arithmetic operators
- Bitwise operators can operate upon?
 (A) Double and chars (B) floats and doubles
 (C) ints and floats (D) ints and chars
- What type of value does "size of" return?
 (A) Char (B) Short
 (C) Unsigned int (D) Long
- Relational operators cannot be used on _____.
 (A) Structure (B) Long
 (C) Strings (D) Float
- What is the type of the below assignment expression if x is of type float, y is of type int?
 $y = x + y;$
 (A) int (B) float
 (C) There is no type for an assignment expression (D) double
- Which keyword is used to come out of a loop only for that iteration?
 (A) Break (B) Continue
 (C) Return (D) Terminate
- In expression $i = g() + f()$, first function called depends on _____.
 (A) Compiler (B) Associativity of () operator
 (C) Precedence of () and + operator (D) Left to right of the expression

9. Set of consecutive memory location is called as _____.
 (A) Function (B) Loop
 (C) Array (D) Pointer
10. Array with last element 'n' will always have array size equal to _____.
 (A) n (B) n+n
 (C) n-1 (D) n+1
11. If the two strings are identical, then strcmp () function returns.
 (A) 1 (B) 0
 (C) -1 (D) True
12. String concatenation means
 (A) Combining two strings (B) Extracting a substring out of a string
 (C) Partitioning the string into two (D) Comparing the two strings to define the larger one
13. A preprocessor command
 (A) Need not start on a new line (B) Need not start on the first column
 (C) Has # as the first character (D) Comes before the first executable statement
14. Can we use a function as a parameter of another function?
 (A) Yes, and we can use the function value conveniently (B) Yes, but we call the function again to get the value, not as convenient as in using variable
 (C) No, C does not support it (D) This case is compiler dependent
15. Address stored in the pointer variable is of type _____.
 (A) Integer (B) Floating
 (C) Array (D) Character
16. Comment on the following pointer declarations? int * ptr, p;
 (A) ptr is a pointer to integer, p is not (B) ptr and p, both are pointers to integer
 (C) ptr is pointer to integer, p may or may not be (D) ptr and p both are not pointers to integer
17. How will you free the allocated memory?
 (A) remove (var-name); (B) free (var-name);
 (C) delete (var-name); (D) dalloc (var-name);
18. What is the similarity between a structure, union and enumeration?
 (A) All of them let you define new values (B) All of them let you define new data types
 (C) All of them let you define new pointers (D) All of them let you define new structure
19. If there is any error while opening a file, fopen will return _____.
 (A) Nothing (B) EOF
 (C) Null (D) Depends on compiler
20. FILE reserved word is
 (A) A structure tag declared in stdio.h (B) One of the basic data types in C
 (C) Pointer to the structure defined in stdio.h (D) It is a type name defined in stdio.h

PART – B (5 × 4 = 20 Marks)
 Answer ANY FIVE Questions

21. Explain the structure of a C program.
22. Define pseudo code and mention the advantage.
23. What are the differences between L value and R value in expression?
24. What is the difference between a “break” and “continue” statement?
25. Differentiate between “call by value” and “call by reference”.
26. What is parameter? Mention the difference between formal and actual parameters.
27. Write the difference between union and structure.

PART – C (5 × 12 = 60 Marks)
 Answer ALL Questions

28. a.i. Write the algorithm and pseudo code that takes minutes as input and displays the total number of hours and minutes.
- ii. If the marks obtained by a student in six different subjects are input through the keyboard, write a C program to find out the aggregate marks and percentage marks obtained by the student.

(OR)

- b.i. Analyze the various storage classes in C with suitable examples. (8 Marks)
- ii. Write a C program to get two numbers as input from the user, then perform Bitwise-AND and Bitwise-OR and print the results. (4 Marks)

29. a. Analyze the C programming operator precedence and associativity with suitable examples.

(OR)

- b. Explain the various decision making statements in C with an example for each.

30. a. Write the purpose of following functions with suitable examples

- (i) gets ()
- (ii) getchar ()
- (iii) puts ()
- (iv) putchar ()
- (v) strlen ()
- (vi) strcpy ()

(OR)

- b. Write about
- (i) Recursion function with an example
 - (ii) Function definition with an example