

PART – B (5 × 10 = 50 Marks)

Answer **ALL** Questions

26. a. What is a flowchart? List and define the purpose of symbols used to represent a flowchart with an example. 10 2 1 1

(OR)

- b. Illustrate the uses of bitwise operators through suitable examples. 10 2 1 1

27. a. Write a C program to display 'n' terms of natural numbers and their sum. 10 4 2 3

Sample input: 7

Expected output:

The first seven natural numbers are:

1 2 3 4 5 6 7

Sum upto 7 terms: 28

(OR)

- b. Write a C program to find the minimum and maximum element in an array. 10 4 2 3

Sample input:

Input the number of elements to be read:5

Input five elements of the array:

Element 1: 34

Element 2: 46

Element 3: 03

Element 4: 22

Element 5: 18

Expected output:

Minimum element: 03

Maximum element: 46

28. a.i. What is the difference between pass by value and pass by reference? Explain with an example. 4 3 3 4

- ii. Write the C coding for swapping two numbers using pass by reference. Trace with an example. 6 3 3 4

(OR)

- b. Write a C program to reverse a string using recursive function. For a specific example trace the program. 10 3 3 4

29. a. Define structure in C. Also explain how pointers are used with structure with suitable example. 2+8 2 4 3

(OR)

- b. Write about various pragma directives and explain in detail. 10 2 4 3

30. a. Write a C program to illustrate array of structures. 10 3 5,6 12

(OR)

- b. Write a C program to find the average of number stored in sequential access file. 10 3 5,6 12

Reg. No.

B.Tech. DEGREE EXAMINATION, MAY 2022

First & Second Semester

18CSS101J – PROGRAMMING FOR PROBLEM SOLVING

(For the candidates admitted from the academic year 2018-2019 to 2019-2020)

Note:

- (i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
(ii) **Part - B** should be answered in answer booklet.

Time: 2½ Hours

Max. Marks: 75

PART – A (25 × 1 = 25 Marks)

Answer **ALL** Questions

- | | Marks | BL | CO | PO |
|--|-------|----|----|-----|
| 1. Which of the following is an invalid expression in C language?
(A) result = a++-b*2; (B) result = ++a*5;
(C) result = /4; (D) result = 2,4; | 1 | 4 | 1 | 1 |
| 2. What symbol does the C-preprocessor start with?
(A) # (B) \$
(C) “ ” (D) & | 1 | 1 | 2 | 1 |
| 3. The format specifier that is used to read or write an integer is _____.
(A) %i (B) %f
(C) %i or %d (D) %d | 1 | 1 | 1 | 1 |
| 4. _____ is not a storage class.
(A) struct (B) auto
(C) static (D) extern | 1 | 2 | 1 | 2 |
| 5. What is the output of this statement printf(“%d”, (a++));
(A) Error messages (B) Garbage value
(C) The current value of a (D) The value of (a+1) | 1 | 4 | 1 | 2 |
| 6. What is the result of logical or relational expression in C?
(A) True or False (B) 0 or 1
(C) False if 0 (D) 0 if an expression is false and any positive number if an expression is true | 1 | 2 | 2 | 2,3 |
| 7. What is the output of the following C program?
int main ()
{ int a [4]; a[4] = {1,2,3,4};
printf (“%d”, a[0]); return 0;
}
(A) 1 (B) 2
(C) 0 (D) Compilation error | 1 | 3 | 2 | 3,2 |

8. Which is these best describes an array? 1 1 2 2,3
 (A) A data structure that shows a hierarchical behavior (B) Container of objects of similar objects
 (C) Arrays are immutable once initialized (D) Array is not a data structure
9. Which of the following operators takes only integer operands? 1 2 2 3
 (A) + (B) *
 (C) / (D) %
10. How many times will the following loop in C program execute? 1 4 2 3
 for (j = 1; j <= 10; j = j - 1)
 (A) Forever (B) Never
 (C) 10 times (D) 1
11. Which loop in C program is faster, for while or do...while? 1 3 3 4
 (A) for (B) while
 (C) do...while (D) All work at same speed
12. Choose a correct statement about C string. 1 1 3 4
 char ary [] = "Hello...!";
 (A) Character array, ary is a string (B) Ary has no null character at the end
 (C) String size is not mentioned (D) String cannot contain special characters
13. What is the output of C program with arrays? 1 4 3 3

```
int main ( )
{ char str = {"P", "E", "T", "\0"};
  printf ("%s", str); return 0;
}
```

 (A) P (B) PET
 (C) PET\0 (D) Compiler error
14. Which function will you choose to join two words in C program? 1 1 3 1,3
 (A) strcpy () (B) strcat ()
 (C) strjoin () (D) strncat ()
15. What will strcmp () function do? 1 1 3 1,3
 (A) Compares the first 'n' characters of the object (B) Undefined function
 (C) Copies the string (D) Compares the string
16. What is the keyword used to define a C macro? 1 1 4 1,3
 (A) def (B) define
 (C) defy (D) definition
17. What is the C keyword used to create global constants? 1 1 4 1
 (A) constant (B) def
 (C) define (D) CONSTANT

18. Comment on the following pointer declaration in C? 1 4 4 2

```
int *ptr, P;
```

 (A) ptr is a pointer to integer, P is not a pointer (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
19. Address stored in the pointer variable is of type _____ in C programs. 1 2 4 2
 (A) integer (B) float
 (C) character (D) boolean
20. A function which calls itself is called as _____. 1 2 4 2
 (A) self function (B) static function
 (C) auto function (D) recursive function
21. What will be the output of the following C code on a 64 bit machine? 1 3 5 1,2

```
#include <stdio.h>
int main ( )
{ union var
  { union var v1;
    printf ("%d", size of (v1));
    return 0;
  };
}
```

 (A) 8 (B) 5
 (C) 4 (D) 9
22. What is the output of this C code? 1 3 5 1,2

```
# include <stdio.h>
main ( )
{ char *p = "SRM Test Paper";
  p [0] = 'a';
  p [1] = 'b';
  printf ("%s", p);
}
```

 (A) abM Test paper (B) SRM Test paper
 (C) Compile Time Error (D) Run Time Error
23. EOF is an integer type defined in stdio.h and has a value _____. 1 2 6 1,2
 (A) 1 (B) 0
 (C) -1 (D) Null
24. Which one of the following is correct syntax for opening a file in C language? 1 3 6 1,2
 (A) FILE *fopen (const *filename, const char *mode); (B) FILE *fopen (const *filename);
 (C) FILE *open (const *filename, const char *mode); (D) FILE *open (const *filename);
25. The correct syntax to access the member of the ith structure in the array of structure is? 1 4 6 1,2

```
struct temp
{ int b;
  } s[50];
```

 (A) s.b[i]; (B) s.[i].b;
 (C) s.b[i]; (D) s [i].b;