Reg. No.														

B.Tech. DEGREE EXAMINATION, JULY 2022
First & Second Semester

18CSS101J – PROGRAMMING FOR PROBLEM SOLVING
(For the candidates admitted during the academic year 2020 - 2021 & 2021 - 2022)

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.

PART – B (5 × 10 = 50 Marks)
Answer **ALL** Questions

		Marks	BL	CO	PO
26. a.i.	Write the pseudo code for finding Fibonacci series of 10 numbers.	5	3	3	3
ii.	List the classification of operators and explain any two with an example.	5	2	1	1
	(OR)				

b.i.	Predict the output of the following code snippet
	`#include < iostream.h >`
	`#include < math.h >`
	`int main ( )`
	`{`
	`float a,b,c,d;`
	`scanf("%f%f%f", &a,&b,&c)`
	`d = ((a- 6) - pow(b,2) / c+ 4);`
	`printf("%3f",d);`
	`return 0;}`
		3	3	3	2

ii.	Write short notes on the following: (1) Post increment and pre increment	2	3	2	2
	(2) Storage classes	2	3	3	2
	(3) Flowchart for printing sum of n numbers	3	3	2	2
27. a.i.	Write a C program to find perfect numbers between 1 and n.	4	1	1	2
ii.	What are arrays? Write a C program to add two 2-D array of elements.	6	1	2	3
	(OR)				

b.i.	Predict the output of the following
	`#include < stdio.h >`
	`int main( )`
	`{`
	`int x = 10, y = 5, d, c;`
	`d = x >> 2;`
	`c = (x + y) << 2;`
	`switch (d > c)`
	`{`
	`case 1 : printf ("hi");`
	`break;`
	`case 0 : printf ("bye");break;`
	`default : printf ("hello bye");`
	`}`
	`}`
		3	2	3	3

ii.	Discuss in detail about operator precedence with an example.	3	1	1	1
iii.	Write a C program to print 2-D matrix multiplication.	4	3	2	3
28. a.i.	Write a C program to identify the duplicate elements and its count using arrays. array $a_1 = \{52,1,6,44,6,77,6,92,44,6,77,52\}$	5	3	2	3
ii.	With an example explain call by value and call by reference.	5	1	3	3

(OR)

b.i. Write short notes on the following with example.

(i) atoi( )
(ii) strlen( ), strcat( )
(iii) strcmp( )
(iv) strrev( ), strcpy( )
(v) strtok( )

2	1	2	3
2	1	2	3
2	2	2	3
2	1	2	3
2	1	2	3

29. a.i. Differentiate between formal parameters and actual parameters with an example.

4	3	3	3

ii. Define the following:

(1) Function pointer
(2) Null pointer
(3) Dangling pointer

2	1	2	3
2	1	2	3
2	1	2	3

(OR)

b.i. Predict the output of following:

```
#include < stdio.h >
void function (char **);
int main( )
 { char *arr[ ] = {"ant","bat", "cat", "dog", "egg", "fly"};
   function(arr);
   return 0;}
void function (char  **ptr)
 {char * ptr1;
  ptr1 = (ptr+ = size of (int))[-2];
  printf("%s \ n",ptr1);}
```

4	3	3	3

ii. What is meant by preprocessor macro? Justify with nested preprocessor macro example by finding square and cube of a number.

6	2	2	3

30. a.i. Define structures in C. Write a structure program for calculating average salary of employees, with structure containing address, name, age, designation, salary.

5	3	4	3

ii. With an example explain in detail about various file modes and file types.

5	3	4	3

(OR)

b.i. Create a structure named "Job" with following fields name [30], salary, worker-Id. Create a union "Job1" with same fields as in structure "Job". Now you have to print the size of structure and union in main function. Justify the output.

5	6	5	4

ii. Explain how to read and write the contents in a file with an example.

5	3	4	4

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