

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/  
COMMERCIAL PRACTICE – NOVEMBER - 2022**

**PROGRAMMING IN C**

(Maximum Marks : 75)

[Time : 3 hours]

**PART–A**

**I.** Answer **all** the following questions in one word or one sentence. Each question carries 1 mark.

**(9x1=9 marks)**

		Module Outcome	Cognitive level						
1	The conditional operator is.....	M 1.01	R						
2	.....return type indicates that the function doesn't return a value.	M 1.04	R						
3	Which storage class has global visibility in C?	M1.05	R						
4	Write the initialization statement of the following matrix. <div style="text-align: center; border: 1px solid black; padding: 5px; display: inline-block;"> <table style="border-collapse: collapse;"> <tr><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">2</td></tr> <tr><td style="padding: 2px 10px;">2</td><td style="padding: 2px 10px;">3</td></tr> <tr><td style="padding: 2px 10px;">3</td><td style="padding: 2px 10px;">4</td></tr> </table> </div>	1	2	2	3	3	4	M2.01	U
1	2								
2	3								
3	4								
5	List any two built-in functions to manipulate strings.	M2.06	R						
6	.....is a variable that can hold the memory address of another variable.	M3.01	R						
7	Write the syntax of malloc()	M3.03	R						
8	Which operator is used to access the members of a structure?	M4.01	R						
9	.....function is used to read set of characters from a file.	M4.07	R						

**PART - B**

**II.** Answer **any Eight** questions from the following. Each question carries 3 marks.

**(8x3=24marks)**

		Module Outcome	Cognitive level
1	Write the use of pre-processors with an example.	M 1.02	U
2	Write the features of an array.	M 2.01	R
3	<pre>#include&lt;stdio.h&gt; int main() { int a[5] = {5, 1, 15, 20, 25}; int i, j, m; i = ++a[1]; j = a[1]++; m = a[i++]; printf(“%d, %d, %d”, i, j, m); return 0; } Write the output and explain.</pre>	M2.02	U

4	How to find whether two strings are equal or not using built-in function? Illustrate with example.	M2.06	U
5	Write notes on passing of array into a function as arguments.	M2.07	U
6	What is Call by Reference? Give an example.	M3.02	U
7	Write advantages of dynamic memory allocation.	M3.03	R
8	How to access the elements of an array using pointers?	M3.04	U
9	How to initialize a string using pointers?	M3.05	U
10	List the steps in file processing.	M4.07	R

### PART - C

Answer **all** questions from the following. Each question carries 7 marks.

**(6x7=42marks)**

		Module Outcome	Cognitive level
III	<p>Consider the following program and answer the questions below.</p> <pre>int area(int l, int b) {     return l*b; } int main() {     int a,b;     printf("\nEnter length and breadth :");     scanf("%d %d", &amp;a,&amp;b);     printf("\nArea=%d",area(a,b));     return 0; }</pre> <p>a) Write the steps in execution of the above program with sample output. <span style="float: right;">4 Marks</span></p> <p>b) Explain the parameter passing method of the above program. <span style="float: right;">3 Marks</span></p> <p style="text-align: center;"><b>OR</b></p>	M1.04	U
IV	Write a C program to find sum of first n numbers using recursion.	M1.08	A
V	<p>a) <pre>int fun() {     static int count =0;     count++;     return count; } int main() {     printf("\nCount = %d, fun());</pre></p>	M1.05	U

	<pre>printf("\nCount = %d, fun()); printf("\nCount = %d, fun()); return 0; }</pre> <p>Write the output of the above program and explain the working . 4 Marks</p> <p>b) List down the features of static variables. 3 Marks</p> <p style="text-align: center;"><b>OR</b></p>		
VI	Explain storage classes in C 7 Marks	M1.04	U
VII	Explain steps in Binary Search method. 7 Marks	M2.04	U
VIII	<p style="text-align: center;"><b>OR</b></p> <p>Explain how to</p> <p>a) read a string 1 Mark</p> <p>b) find length of the string 2 Marks</p> <p>c) copy the string 2 Marks</p> <p>d) find the reverse of string. 2 Marks</p>	M2.06	U
IX	Write a C program to sort a single dimensional array of size '10' in ascending order using pointer to array. 7 Marks	M3.05	A
X	<p style="text-align: center;"><b>OR</b></p> <p>Explain the use of pointers to array with an example. 7 Marks</p>	M3.04	U
XI	Write a C program using a structure 'employee' to read emp id, emp name, designation, basic pay of 5 employees and calculate salary using the following equation: Salary = basicpay+da-pf where da is 25% of basic pay and pf is 10% of basic pay. 7 Marks	M4.02	A
XII	Explain command line arguments. 7 Marks	M4.08	R
XIII	What is user-defined data type? Explain structure declaration and processing with an example. 7 Marks	M4.01	R
XIV	<p style="text-align: center;"><b>OR</b></p> <p>Write a C program using a structure 'item' to read item id, item name and price</p> <p>a) declare the structure 2 Marks</p> <p>b) use a pointer to the structure to read and display details of an item. 5 Marks</p>	M4.05	A

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