

SHRI MATA VAISHNO DEVI UNIVERSITY, KATRA  
 School of Computer Science & Engineering  
 B. Tech.(CSE) Mid Semester Examination (Odd Semester) 2024-2025

Entry No: 2 4 b e c 0 5 5 Total Number of Pages:[02]

Date: 09.10.2024 Total Number of Questions: [05]

Course Title: Introduction to C Programming  
 Course Code: CSL1022/ New code (CSL ES101)

Time Allowed: 1.5Hours Max Marks: [20]

Instructions / NOTE

- Attempt All Questions.
- Support your answer with flowcharts/algorithms, wherever appropriate.
- Assume an appropriate data / information, wherever necessary / missing.
- No continuations sheets allowed

Section - A

Q1.		(i) Which is valid C expression? a) intmy_num = 100,000; b) int my_num = 100000; c) int my num = 1000; d) int \$my num = 10000;		[01]	
(ii) Which of the following is NOT possible with any 2 operators in C?		a) Different precedence, same associativity b) Different precedence, different associativity c) Same precedence, different associativity d) All of the mentioned		[01]	CO1
(iii) What is the significance of void data type?		[01]		CO1	
(iv) scanf() is a predefined function in which header file.		[01]		CO1	
(v) Evaluate the following expressions according to the precedence of C Language: exp = 100 + 200 / 10 - 3 * 10		[01]		CO1	
Q2.		What is the output/error(s) of the following code?			
(i)		<pre>#include &lt;stdio.h&gt; int main() {     int y = 10000;     int y = 34;     printf("Hello World! %d\n", y);     return 0; }.</pre>		[02]	CO3
(ii)		<pre>#include&lt;stdio.h&gt; int main() {     int a=30,b=40;     if(a==b)         printf("%d%d\n",a,b);     return 0; }</pre>		[02]	CO2

(iii)

```
#include <stdio.h>
int main()
{
    int i = 65;
    char j = 'A';
    if (i == j) {
        printf("This place is beautiful\n");
    }
    else {
        printf("This place is not beautiful\n");
    }
    return 0;
}
```

Section - B

- |    |   |
|----|---|
| Q3 | Write a C program to find maximum between three numbers.  |
| Q4 | Write a C program to check whether a number is negative, positive or zero.                          |
| Q5 | Write a C program to input all sides of a triangle and check whether it is a valid triangle or not. |

Entry No: 9 4 8 E C 0 5 5  
Date: 18.12.2024

Total Number of Pages: [02]  
Total Number of Questions: [06]  
Course Title: Introduction to 'C' Programming  
Course Code: CSL ES101

Time Allowed: 3.0 Hours

Instructions / NOTE (Faculty may include any other relevant instruction, if required)

- Attempt All Questions.
- Support your answer with neat freehand sketches/diagrams, wherever appropriate.
- Assume an appropriate data / information, wherever necessary / missing.
- Use of IS Code (Mention Number) is permissible in examination.

Max Marks: [40]

Q1. What is the output of the following C programs?

(a)

```
void main()
{
    int x = 4, y = 3, z;
    z = x-- - y;
    printf ("%d %d %d\n", x, y, z);
}
```

[02]

(b)

```
void main()
{
    int a = 5;
    int *ptr;
    ptr = &a;
    *ptr = *ptr * 3;
    printf ("%d", a);
}
```

[02]

(c)

```
void main()
{
    int x = 20, *y, *z;
    // Assume address of x is 500 & integer is 4 byte
    y = &x;
    z = y;
    *y++;
    *z++;
    x++;
    printf ("x = %d, y = %d, z = %d \n", x, y, z);
}
```

[02]

Q2. (a) What are macros? Explain various ways of using macros. Enumerate the differences between macros and functions?  
(b) Write a C program to print Fibonacci series.

[02]

[02]



(c) Write a program to check whether character is vowel or consonant.

(d) Write a C program that calculates the HCF and LCM of two numbers

### Section - B

Q3 (a) Differentiate between Register storage class and Auto storage class with example.

(b) Differentiate between Call by value and Call by reference methods.

Explain the same by invoking the functions for swapping of two numbers .

Q4. Create a structure to store name, roll number and marks of students in two subjects. write code to:

a) find the length of Name.

b) Find the merit based on average marks in subject.

Q5. Write a program to find the frequency of characters in a String

Q6. WAP to print a structure give below:

1	2	3	4	3	2	1
1	2	3		3	2	1
	1	2			2	1
				1		1

B. Tech. (CSE) Minor II  
Examination (Odd Summer) 2023-24

Entry No: 

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 Total Number of Pages: [01]

Date: 21.11.23

Total Number of Questions: [04]

Course Title: Introduction to C Programming

Course Code: CSL 1022

Time Allowed: 1.0 Hour

Instructions / NOTE

- i. Attempt All Questions.
- ii. Support your answer with neat freehand sketches/diagrams, wherever appropriate.
- iii. Assume an appropriate data / information, wherever necessary / missing.

Q1. Enumerate the points of differences between "Break" and "Continue". Also explain their working with the help of suitable programs for each.

(5 Marks)

Q2. Chef wants to book Ola Cab, he has to take ride from point one  $(x_1, y_1)$  to second point  $(x_2, y_2)$ , Ola cost N rupees per unit, Chef have R rupees in his pocket. You have to help Chef to find Whether he have sufficient amount of money in his pocket for paying to ola, if yes print "yes" (without quotes) else print "no" (without quotes). Write a program that creates a user defined function DETERMINE; passes first point, second point and chefs money as arguments and prints "yes" or "no" in the main program.

Q3. Write a program for generating the series

--	--	--	--	--	--	--

1 2 3 4 5  
1 5 10 15 20 25  
2 10 15 20 25 30  
3 15 20 25 30 35  
4 20 25 30 35 40  
5 25 30 35 40 45

```
if (i=0, i<=j, i++) {  
    if (j=01, j<=5, j++) {  
        cout << j;  
    }  
    cout << endl;  
}  
else  
    cout << "5";
```

(5 Marks)

Q4. Write a menu driven program which has following option:  
i. Prime or not ii. Factorial iii. Armstrong number.

OR

Define functions. Explain the points of difference between "Call by Value" and "Call by Reference". Explain with the help of suitable programs for each.

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School of Computer Science & Engineering

B. Tech. (ECE) REMinor II

Examination (Odd Summer) 2023-24

Entry No:

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Date: 14.12.23

Total Number of Pages: 101  
Total Number of Questions: 104

Course Title: Introduction to C Programming

Course Code: CSL 1022

Time Allowed: 1.0 Hour

Instructions / NOTE

- i. Attempt All Questions.
- ii. Support your answer with neat freehand sketches/diagrams, wherever appropriate.
- iii. Assume appropriate data / information, wherever necessary / missing.

Q1 WAP in C to find the Sum of Natural Numbers Using Recursion. 5

Q2. WAP in C to Find Largest Element in an Array. 5

Q3 Using Call by reference find the sum of two numbers. 5

Q4 Find Output of the program 2.5\*2

A. #include<stdio.h>

```
int main()
{ int i = 1;
  while_printf("%d", 5) == 1 == i)
  {printf("SuperLoop");
  }
  return 0;
}
```

B . #include<stdio.h>

int main()

```
{ 
  int i;
  while(sizeof(NULL))
  {
    printf("inside loop");
    continue;
    break;
  }
  return 0;
}
```



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School of Computer Science & Engineering

B. Tech. (CSE) Minor 1

Examination (Odd Summer) 2023-24

Entry No: 

2	3	b	e	c	o	d	6
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Date: xx.10.23

Total Number of Pages: [02]  
Total Number of Questions: [07]

Course Title: Introduction to C Programming

Course Code: CSL 1022

Time Allowed: 1.0 Hour

Instructions / NOTE

- i. Attempt All Questions.
- ii. Support your answer with neat freehand sketches/diagrams, wherever appropriate.
- iii. Assume an appropriate data / information, wherever necessary / missing.

Q1. IF ASCII code of '-' is 45 and '/' is 47. What will be the output of

```
printf("%d \n", '-' , '/' , '/' , '/' , '/');
```

(1 Mark)

Q2. What is the output of the below given code. Justify your answer.

```
#include<stdio.h>
int main()
{
    if(!printf(""))
        printf("Okkk");
    else
        printf("Hiii");
    return 0;
}
```

(2 Marks)

Q3. What's the "condition" so that the following code snippet prints both HelloWorld !

```
if "condition"
    printf ("Hello");
else
    printf ("World !");
```

(2 Marks)

Q4. Show the hierarchical structure in terms of precedence and associativity of Arithmetic, Relational and logical operators.

(3 Marks)

Q5. What are different data types in C ? Discuss all with example on each?

(3 Marks)

Q6. Write a program to check whether the given year is a leap year or not without using logical operators.

(4 Marks)

Q7. If cost price and selling price of an item are input through the keyboard, write a program to determine whether the seller has made profit or incurred loss. Also determine how much profit he made or loss he incurred.

OR

What is algorithm and their types? Discuss properties of good algorithm?

Draw and compare algorithm and flowchart using program for largest among 3 numbers?

(5 Marks)

Instructions / NOTE

Attempt All Questions.

Assume any missing data to suit the Program/case / derivation / answer.

Explain steps while writing a program/Algorithm/Flowchart/comment etc.

**Section A (25 Marks)****Q1. What would be the output of the following code?**

```
#include<stdio.h>
void fun(int, int);
int main()
{ char x=70, y='F' ;
fun(x,y);
return 0;
}
void fun(int x, int y)
{
printf(`%d \n %d`,x,y);
}
```

**Q2. What is the output of the following C Program?**

```
#include<stdio.h>
void texas(int *,int *);
int main()
{ int a=11, b=22;
printf("Before = %d %d, ", a, b);
texas(&a, &b);
printf("After = %d %d", a, b);
return 0;
}
void texas(int *i, int *j)
{ *i = 55; *j = 65;
}
```

**Q3. What is the output of the following C Program if the Base address of the union 'values' is 100201?**  
Justify your answer.

```
#include <stdio.h>
union values
{ int val1;
char val2;
} myVal;
int main()
{ myVal.val1 = 66;
printf("val1 = %u", &myVal.val1);
printf("\nval2 = %u", &myVal.val2);
return 0; }
```

**Q4. Explain the difference between 'Break' and 'Continue' statements with the help of appropriate examples.****Q5. Write a macro definition to find the absolute value of a number, where number x is the argument of macro.****Q6. State all limitations of the Switch Case control statement. Explain with the help of suitable examples.**

Q14	Write the nested loop segment to print the following pattern: 1 2 3 4 3 2 1 1 2 3 3 2 1 1 2 2 1 1	[04]
Q8	Explain getch(), getchar(), getche() and gets() along with suitable examples.	[04]
Q9.	Compare and contrast the storage classes on various aspects in a tabular form.	[04]
<b>Section B (25 Marks)</b>		
Q 10.	Write a menu driven program to read a character from the user and perform any of the following operations on the character based on the choice of the user. Create <b>functions</b> to perform each operation by passing the character to each function. <b>Note: Use Switch case.</b> 1. If the character is an alphabet then convert the case of the character 2. Display the ASCII value of the character 3. Find and display if the character is an alphabet, digit or special symbol.	[05]
Q 11	W.A.P to read total marks of N students. Find and print the average score of the class along with the total number of students whose score was above average score and also print the highest score of the class.	[05]
Q 12.	Write a C Program to read values in a matrix of size MxM. Find and print the sum of all the diagonals of the matrix.	[05]
Q 13	In your program preset a password in a string which should be of minimum 8 characters long. Through your program ask the user to enter the password and match it with the preset password. If the password matches, print the message as "Correct Password" else print "Wrong Password". If the password is incorrect, ask the user to re-enter the password. Repeat the process of password matching. The maximum permitted chances to enter the password = 3. If this limit exceeds, print the message "Password Locked" and exit the program.	[05]
Q 14	W.A.P to read 10 records of employees of ABC Ltd. in the structure named EMP having the following members: Emp_id, Emp_name, Emp_totalsalary, and Emp_totalsalesmade. Display the records of all those employees whose total sales made is greater than 10000 Rupees. The employer has decided to give an increment of 1000 Rupees to all the employees whose sales made is greater than 10000 Rupees. Re Print the records of all the employees after making the changes.	[05]

**Course Outcomes:**

CO1: Knowledge and understanding of programming.

CO2: Ability to write simple programs in C language by using basic control structures (conditional statements, loops, switches, branching, etc.).

CO3: Understanding the higher concept of programming using functions, arrays, strings, pointers, preprocessors and structures, and implementing the various operations on them.

CO	Questions Mapping	Total Marks	Total Number of Students (to be appeared in Exam)
CO1	Q1,2,3,4,5,6	13	
CO2	Q7,8,9	12	
CO3	Q10,11,12,13,14,	25	

**SHRI MATA VAISHNO DEVI UNIVERSITY, KATRA**  
**School of Computer Science & Engineering**  
**B. Tech. (CSE) MAJOR**  
**Examination (Odd Summer) 2023-24**

Entry No:

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Date: 22.12.23

Total Number of Pages: [01]

Total Number of Questions: [07]

Course Title: Introduction to C Programming

Course Code: CSL 1022

Max Marks: [50]

Time Allowed: 3.0 Hours

**Q1. Answer the following questions:**

- a. What are preprocessor directives and why do we use them?
- b. What are storage classes? Name them and their purpose.
- c. Write a for loop to print numbers from 10 to 1.
- d. Can addresses and values be stored in the same array? Justify. Differentiate between character array and integer array.

(3 Marks each =12 Marks)

**Q2. Explain in detail with the help of suitable examples:**

- a. Structure and Union
- b. Macros and Functions
- c. Typecast and Typedef

(4 Marks Each = 12 Marks)

**Q3. Write an algorithm and develop a C program to reverse an integer number NUM and check whether it is PALINDROME or NOT.** (5 Marks)

**Q4. Write a Menu driven program to calculate surface area and volume of a Sphere using call by reference . Values must be printed in the main program.** (5 Marks)

**Q5. Write a program to generate the series**

ABCDE<sup>F</sup>GFEDCBA  
ABCDEF FEDCBA  
ABCDE EDCBA  
ABCD DCBA  
ABC CBA  
AB BA  
A A

(5 Marks)

**Q6. a. Write a short note on two Dimensional character arrays. How they are passed to a function  
b. Write a program to multiply two matrices.** (4 + 3 = 7 Marks)

**Q7. Write a program to create record of student using the structure RECORD with Name, Entry No., Address and Marks in three subjects. Enter the details of the student in the main program and using the function PRINT print the details of the student in the function using call by reference.** (4 Marks)

**SHRI MATA VAISHNO DEVI UNIVERSITY, KATRA**  
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**B. Tech. (CSE) Minor 1**  
**Examination (Odd Summer) 2023-24**

Entry No: 

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Date: xx.10.23

Total Number of Pages: [02]

Total Number of Questions: [07]

Course Title: Introduction to C Programming  
Course Code: CSL 1022

Time Allowed: 1.0 Hour

Max Marks: [20]

Instructions / NOTE

- i. Attempt All Questions.
- ii. Support your answer with neat freehand sketches/diagrams, wherever appropriate.
- iii. Assume an appropriate data / information, wherever necessary / missing.

Q1. IF ASCII code of '-' is 45 and '/' is 47. What will be the output of

printf("%d \n", '-','-', '-','-', '/', '/', '/');  
      45 45 45 47 47 47

(1 Mark)

Q2. What is the output of the below given code. Justify your answer.

```
#include<stdio.h>
int main()
{
    if(!printf(""))
        printf("Okkk");
    else
        printf("Hiii");

    return 0;
}
```

(2 Marks)

Q3. What's the "condition" so that the following code snippet prints both HelloWorld !

```
if "condition"
    printf ("Hello");
else
    printf ("World !");
```

(2 Marks)

Q4. Show the hierarchical structure in terms of precedence and associativity of Arithmetic, Relational and logical operators. (3 Marks)

Q5. What are different data types in C ? Discuss all with example on each? (3 Marks)

Q6. Write a program to check whether the given year is a leap year or not without using logical operators. (4 Marks)

Q7. If cost price and selling price of an item are input through the keyboard, write a program to determine whether the seller has made profit or incurred loss. Also determine how much profit he made or loss he incurred.

OR

What is algorithm and their types? Discuss properties of good algorithm? Draw and compare algorithm and flowchart using program for largest among 3 numbers?

(5 Marks)

