Graphic Era
Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)
University under section 2(f) of UGC Act, 1956

Mid Term (Odd) Semester Examination October 2024

Roll no. 24929525

Name of the Course and semester: BCA AI and DS
Name of the Paper: FOUNDATION OF C PROGRAMMING
Paper Code: TBD 102 / TBE-102
Time: 1.5-hour

Maximum Marks: 50

Note:

(i) Answer all the questions by choosing any one of the sub questions
(ii) Each question carries 10 marks.

Q1. (10 Marks)

a. Explain the structure of a C program. Write a C program to swap two numbers. CO1

OR

b. What are the features of the C programming language? Explain the C program compilation process. CO1

Q2. (10 Marks)

a. Draw a flow chart to check largest among three numbers. Also Write a C code to print largest among three numbers. CO2

OR

b. Write a C program to input number of mangoes N and generate bill. Bhogilal sells mangoes and bill is generated on following conditions: CO 2

- Number of mangoes >=50, rate =rs 10 per mango
- 50>Number of mangoes>=25, rate =rs 15 per mango
- Number of mangoes <25, rate= rs 20 per mango
- Total bill=N*rate

Q3. (10 Marks)

a. Explain the difference between a while and a do-while loop. Write a C code to find factorial of a number using while loop. CO2

OR

b. Write the syntax of the switch statement. Write a C program for implementing basic arithmetic operations (+,-,/,*) using switch statements. CO2

Q4. (10 Marks)

a. What is meant by type conversion? Why it is necessary? Explain about implicit and explicit type conversion with examples. CO1

OR

b. Explain ternary operator. CO2
Write a C program to find largest of two numbers using ternary operator.

Q5. (10 Marks)

a. Write a C program to enter the number of rows N and print the following pattern. CO2

```
Enter the number of rows: 5
1
2 3
4 5 6
7 8 9 10
11 2 13 14 15
```

OR

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b. Guess the output of the following C code. 2.5 marks each CO1

i.

```
#include <stdio.h>
int main() {
int x = 5, y = 3, z = 2;
int result = x > y && y <= z;
printf("%d\n", result);
return 0;
}
```

ii.

```
#include <stdio.h>
int main() {
int a = 10;
float b = 3.5;
int result = a / b;
printf("%d\n", result);
return 0;
}
```

iii.

```
#include <stdio.h>
int main() {
int a = 10;
float b = 3.5;
int result = a<b?a:b;
printf("%d\n", result);
return 0;
}
```

iv.

```
#include <stdio.h>
int main()
{
char ch='A';
printf("%c-%d",ch+32,ch+32);
return 0;
}
```