

Part A(2 marks)

1. Find the output of the following program and justify your answer.

```
#include<stdio.h>  
int main()  
{  
static int i;  
for(i++;++i;i++)  
{  
printf("%d ", i);  
if(i == 6)  
break;  
}  
return 0;  
}
```

2. Point out the difference between the constants 7, '7', and "7".
3. Predict the output of the following code snippet and justify your answer.

```
#include <stdio.h>  
int main()  
{  
unsigned char a=50;  
char loop;  
for(loop=7; loop>=0; loop--)  
printf("%d ",(a & (1<<loop))?1:0);  
return 0;  
}
```

4. Mention the use of the register storage class and explain why the ampersand operator is not allowed on register variables.
5. For which reason pointers are used to pass arguments in the call by reference method for function.
6. Predict the output of the following code snippet and justify your answer.

```
#include <stdio.h>  
int main()  
{  
while(1)  
{  
printf("Hello");  
}  
return 0;  
}
```

Part B (4 marks each)

7.

- i. Evaluate the following expression

$$a=10+2*12/(5\%3)+5$$

- ii. What will be the output of the following C program?

```
int main()
{
    int a=0,b;
    a=(5>2)? b=6: (b=8);
    printf("%d %d", a,b);
    return 0;
}
```

8. Predict the output of the following code snippets and justify your answer. (4 marks)

i.

```
int main()
{
int i=0,j=0;
for(i=0;i<5;i++)
{
for(j=0;j<4;j++)
{
if(i>1)
break;
}
printf("Hi ");
}
}
```

ii.

```
#include<stdio.h>
#define loop while(1)
int main()
{
loop;
printf("Infinite");
return 0;
}
```

9. Differentiate between break and continue keywords with examples.

Part C

10. Write a C program to find the product of digits in a number. For example, if the input number is 21455, the output is 200. Don't use the concept of arrays. (8 marks)

12. Write the output of the following C snippets and justify your answer (10 marks)

i.

```
#include<stdio.h>
int main()
{
    int a=0;
    a=5>2? printf ("4"):3;
    printf("%d",a);
    return 0;
}
```

ii.

```
int main()
{
    int a=0;
    a=10+2*12/5*2+5;
    printf("%d", a);
    return 0;
}
```

b. Write the output of the following C snippets and justify your answer. (4 marks)

i. int main()

```
{
    int n;
    for(n = 7; n!=0; n--)
        printf("n = %d", n--);
    getchar();
    return 0;
}
```

ii. int main()

```
{
    static int var = 5;
    printf("%d ",var--);
    if(var)
        main();
}
```