Subject Code..... Enrollment No.....

MID TERM EXAMINATION-OCTOBER 2024

Introduction to Computers and Programming in C

Time: 01Hr **Maximum marks: 30**

Note: Attempt questions as per Instructions

SECTION-A (Attempt any two questions, Each of 05 Marks)

Q.1. Perform the following operation:

i. $(11111010100.01010110)_2 = (\ ?\ )_{16}$

ii. $(A2B67.136)_{16} = (?)_2$

iii. $(3456.625)_{10} = (?)_8$

iv. 1101001 - 101101001 (using 2's complement)

v. 1010011.1010 ÷ by 100

Q.2. What is the use of printf() and scanf() functions? Also explain format specifiers with examples.

Q.3. What is Operating System? Explain its responsibilities? Give few names of Operating Systems?

SECTION-B (Attempt any One question, Each of 10 Marks)

Q.2.

i. Differentiate between:

(a) Keywords and Identifiers, (b) void main() and int main(), (c) Primary and Secondary memory

ii. What are bitwise operator?

Q.3. What is the output of the following

i.

```
# include <stdio.h>
int main( )
{
int i = 2, j = 3, k, l ;
float a, b ;
k = i / j * j ;
l = j / i * i ;
a = i / j * j ;
b = j / i * i ;
printf ( "%d %d %f %f\n", k, l, a, b ) ;
return 0 ;
}
```

ii.

```
# include <stdio.h>
int main( )
{
float a = 5, b = 2 ;
int c, d ;
c = a % b ;
d = a / 2 ;
printf ( "%d\n", d ) ;
return 0 ;
}
```

iii. Explain Memory Hierarchy Diagram and its characteristics.

SECTION-C (Compulsory, 10 Marks)

Q.4.

i. Explain the Von Neumann architecture by using a suitable diagram.

ii. Differentiate in between Assembly language, High level language and Machine language.

iii. Paper of size A0 has dimensions 1189 mm x 841 mm. Each subsequent size A(n) is defined as A(n-1) cut in half parallel to its shorter sides. Thus, paper of size A1 would have dimensions 841 mm x 594 mm. Write a program to calculate and print paper sizes A0, A1, A2, ... A8.