**ODD 2021**

**Tutorial Sheet -8**

**Software Development Fundamentals – I (15B11CI111)**

| **Course Outcomes (CO)** | |
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| **CO1** | Explain various phases of software development life cycle |
| **CO2** | Explain various data types, memory allocation schemes, precedence of arithmetical and logical operations, and need of array, and structures |
| **CO3** | Draw the flow chart and write the high level code for different problems |
| **CO4** | Apply and implement functions with or without pointers for different problems |
| **CO5** | Demonstrate and implement various operations like traverse, insertion, deletion, *etc.* on files |

**Note:** Students are advised to submit their solutions to their respective tutorial faculties

**Q1. [CO4]**Answer the following (a) and (b) both.

1. What are actual and formal parameters in call by value functions?
2. What are the features of call by value functions?

**Q2. [CO4]**Write a program in C to find the sum of the series 1!/1+2!/2+3!/3+4!/4+5!/5 using the function.

**Q3. [CO4]**What will be the output of the following program?

#include<stdio.h>

void modify (int n) {

n=n+10;

printf("Value of ‘n’ inside function=%d \n", n);

}

int main() {

int x=15;

modify(x);//passing value in function

printf("Modified value of x=%d \n", x);

return 0;

}

**Q4. [CO4]**A girl carries 50 hair pins in a haphazard manner within her dressing drawer. Her mother asked her to arrange these pins so that the drawer will look elegant. But the girl is confused as she does not know the number of possible ways in which she can arrange her hair pins. You must suggest a recursive function to the girl in order to ease her task.

**Q5. [CO4]**Write a program in C to convert decimal number to binary number using the function.

**Q6. [CO4]**Write a program to swap two numbers temporarily using call by value.

**Q7. [CO4]**A child is taking his daily lessons on mathematics from online classes. Today he is learning about the counting of stars. He starts counting as one star, two stars, three stars … then 49 stars and finally 50 stars. Help the child in summing up his counting of the number of stars using recursive function.

**Q8. [CO4]**Write a program in C to check armstrong and perfect numbers using the function.