**CHANDIGARH UNIVERSITY**

**Gharuan, Mohali**

**Institute/Department: University Institute of Engineering**

**Division: Academic Unit - 2**

**Subject Name: Computer Programming**

**Subject Code: UCT-145**

**Assignment No.: 1**

**Max. Marks: 12**

**Date of Allotment: 24- July -19**

**Last date of Submission: 13-Aug-19**

**Course Outcomes:**

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| **CO Number** | **Title** | **Level** |
| CO1 | Identify​ situations where computational methods would be useful. | Understand |
| CO2 | Approach​ the programming tasks using techniques learnt and write​ pseudo-code. | Remember |
| CO3 | Choose​ the right data representation formats based on the requirements of the problem. | Understand |
| CO4 | Use​ the comparisons and limitations of the various programming constructs and choose​ the right one for the task. | Understand |

**Questions:**

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| **Sr. No.** | **Group** | **ASSIGNMENT** | **CO Number** |
| 1. | Group A | 1. Create a C program to check whether a given number is positive or negative. | CO4 |
| 1. Create a program to display the pattern like right angle triangle with a number. | CO3 |
| 1. Create program to find the factorial value of a number. Also write the algorithm and draw flowchart. | CO1  CO2 |
| 1. Develop a flowchart to find the prime numbers between 1 to 100. | CO1 |
| 1. Develop an algorithm (a step by step process) for a program to calculate the sum and average of two numbers entered by the user. | CO4 |
| 2. | Group B | 1. Write a program in C to make a pattern like right angle triangle with a number which will repeat a number in a row without using loops. | CO3 |
| 1. Create a program to display the n terms of even natural number and their sum. | CO4 |
| 1. Draw a flowchart to match the following pseudocode.   - Give variable num1 a starting value of 5  - Give variable num2 a starting value of 10  - Add 7 to num2  - Store the value num1 times num2 in variable num3  - Store the value num2 minus num1 in num2  - Output num1, num2 and num3 | CO2 |
| 1. Write a C program to find the eligibility of admission for a professional course based on the following criteria:  Marks in Maths>=65 Marks in Phy>=55 Marks in Chem>=50 Total in all three subject>=180 or Total in Math and Subjects >=140 | CO4 |
| 1. Write a program in C to input and print your name (string), date of birth (string) and 10 digit mobile number (integer). | CO1 |
| 3. | Group C | 1. Obtain a temperature in degrees Fahrenheit from the user. If the temperature is 80 degrees or more display the message "Go play golf" otherwise, if the temperature is 70 - 79 degrees display the message "Put on a jacket", otherwise display the message "It is too cold." Make a variable list, flowchart, and perform an output check using the following values: 95, 72, 50. | CO2 |
| 1. Create a program to input any number and calculate its square root. (Hint: use math.h header file) | CO4 |
| 1. Write a program in C to make such a pattern like a pyramid with an asterisk without using loops.   \*  \* \* \*  \* \* \* \* \*  \* \* \* \* \* \* \* | CO3 |
| 1. Write algorithm for the following :   a) to check whether an entered number is odd / even.  b) to calculate sum of three numbers. | CO2 |
| 1. Consider the statement :   double ans = 18.0/squared(2+1);  For each of the four versions of the function macro squared() below, write the corresponding value of ans.  1. #define squared(x) x\*x  2. #define squared(x) (x\*x)  3. #define squared(x) (x)\*(x)  4. #define squared(x) ((x)\*(x)) | CO1 |
| 4. | Group D | 1. Write a program to read the age of a candidate and determine whether it is eligible for casting his/her own vote. | CO1 |
| 1. Draw a flowchart for the following :   a) to find greater and smaller number from given two numbers.  b) to calculate sum of first 10 odd numbers. | CO2 |
| Create a program in C to read 10 numbers from keyboard and find their sum and average. | CO4 |
| Write a program in C that takes minutes as input, and display the total number of hours and minutes. | CO4 |
| (a) What do curly braces denote in C? Why does it make sense to use curly braces to surround the body of a function?(b) Describe the diﬀerence between the literal values 7, "7", and ’7’.(c) Consider the statement double ans = 10.0+2.0/3.0−2.0∗2.0; Rewrite this statement, inserting parentheses to ensure that ans = 11.0 upon evaluation of this statement. | CO3CO4CO4 |
| 5. | Group E | The following lines of code, when arranged in the proper sequence, output the simple message “Laughter is timeless, imagination has no age and dreams are forever.”1. return 0;2. const char msg[] = MSG1;3. }4. #deﬁne MSG1 "Laughter is timeless, imagination has no age and dreams are forever5. int main(void) {6. #include <stdio.h>7. puts(msg);Write out the proper sequence (line numbers are suﬃcient) of this code. | CO2 |
| WAP to generate following output without using loops: 1 2 3 4 5  2 3 4 5  3 4 5  4 5  5 | CO3 |
| Draw a flowchart to find the Fibonacci series till term≤1000. | CO1 |
| Design the algorithm for a program that calculates the current balance in a savings account. The program should obtain the following information from the user: the starting balance, the total amount of deposits made, the total amount of withdrawals made, and the monthly interest rate. After the program has calculated the current balance, it should be displayed on the screen. Assume one input for deposits and one input for withdrawals. Draw the flowchart for this algorithm. | CO2 |
| Write a program in C to read any Month Number in integer and display Month name in the word. | CO4 |
| 6. | Group F | 1. Write a program to check whether the character is vowel or consonant? | CO1 |
| 1. Create a C program to convert specified days into years, weeks and days. | CO3 |
| 1. Create a program in C to convert days to years weeks and days | CO4 |
| For each of the following statements, explain why it is not correct, and ﬁx it.(a) #include <stdio.h>;(b) int function(void arg1){return arg1-1;}(c) #define MESSAGE = "Happy new year!"puts(MESSAGE); | CO2 |
| 1. Develop an algorithm to find the greater number between two numbers. | CO2 |
| 7. | Group G | 1. Write a program in C to display the cube of the number upto a given integer. | CO4 |
| 1. Create a program to find the LCM of two numbers. | CO4 |
| 1. Write short notes on the following :   a) C Variables b) C data types | CO2 |
| 1. Design an algorithm which generates even numbers between 1000 and 2000 and then prints them in the standard output. It should also print total sum: | CO3 |
| 1. Write a C program to read roll no, name and marks of three subjects and calculate the total, percentage and division. | CO4 |