University of Sargodha

BS 1st Term Examination 2016

Subject: Computer Science **Paper: Programming Fundamental (CMP-2122)**

Time Allowed: 2:30 Hours **Maximum Marks: 60**

Note: **Objective part is compulsory. Attempt any four questions from subjective part.**

Objective Part (Compulsory)

Q.1. Write short answers of the following questions in 2-3 lines only (12*2=24)

i. Evaluate the expression 50 / (6 + (8 - 4) * 2) + 15

ii. Write the name of two escape sequences and their functions.

iii. Give one example of implicit and explicit type casting?

iv. Is the following statement valid or invalid? Give reason whatever the case may be.

```
int 2abc = 6 ;
```

v. What does the following code display?

```
int p = 10, q = 3, r = -2;
if ((p+q) < 14 && (r < q - 3))
        printf("%d\n", r + 3);
else
printf("%d\n", p - 2);
```

vi. What is scope and life time of a static variable?

vii. Differentiate between while and do while loop?

viii. If ptr is a pointer to int, and i and j are variables of int, What is wrong in the statement?

```
ptr = &(i + j);
```

ix. What is the output?

```
int i , sum = 0;
for (i = 10, i >= 2; I = I + 2)
sum += i;
printf("%d", sum);
```

x. Is statement

```
int arr[5];
arr[] = {1,2,3,4,5};
```

valid? If it is wrong, write the correct statement.

xi. Declare an int variable and pointer to int in a single statement.

xii. Write a prototype of a function that passes an int value, an int reference and returns a double value.

Subjective Part (4 * 9 = 36)

Q # 2: Write a program that accepts 10 integer values from user in an array and passes array to a function. The function finds the greatest value of the array and returns it to main() that displays the value.

Q # 3: Write a program declares a structure **Student** with data member rollno and age. Create two variables of structure, accept values and find the average age of these two students and display the average age.

Q # 4: Write a program that displays the sum of first four terms of the series.

$$\frac{1}{2!}+\frac{2}{3!}+\frac{3}{4!}+\frac{4}{5!}$$

Q # 5: Write a program to display the following pattern

```
5 4 3 2 1
5 4 3 2
5 4 3
5 4
5
```

Q # 6: Write a program that accepts a number from user and passes it to a function that determines whether the number is prime or composite. The result is displayed by main function.

Q # 7: Write a program that inputs obtained marks from a student, calculates the percentage(assuming total marks are 1100) and displays the grade. The grade should be calculated according to the following criterion.

Percentage	Grade
More than or equal 80	A+
Between 70 (inclusive) and 80	A
Between 60 (inclusive) and 70	B
Between 50 (inclusive) and 60	C
Between 40 (inclusive) and 50	D
Between 33 (inclusive) and 40	E
Less than 33	F