

B.Sc. (Honours) Examination, 2019
Semester-V (CBCS)
Statistics
Course : CC-12
(Statistical Computing using C/C++)

Time : 3 Hours

Full Marks : 40

Questions are of value as indicated in the margin.

Question No.1 is compulsory. Answer **any three** from the rest

1. State whether the following statements are True or False. 1×10=10
- Every program statement in C-language must end with a semicolon.
 - A printf statement can generate only one line of output.
 - The scanf function can be used to read only one value at a time.
 - The operators \leq , $>$ and \neq all enjoy the same level of priority.
 - Double quotes are used for single character constants.
 - One if can have more than one else clause.
 - In C, by default the first subscript is zero.
 - A function can be defined within the main function.
 - A pointer can never be subtracted from another pointer.
 - All files must be explicitly closed.
2. Find errors, if any, in the following program statements 10
- ```
int, m, n;
int *p1, *p2 ;
p1 = &m;
p2 = n;
*p1 = &n;
p2 = &* &m;
m = p2 - p1;
p1 = & p2;
```
  - ```
int a, b, c ;  
c = (a+b) / 2;  
printf ("0.0f", &c);
```
 - ```
float a, b, c, char;
a + b = c;
```
  - ```
int x = 2, 367;  
float y = -0.117E125;
```
3. a) Given the following declarations :
- ```
int x = 10, y = 10 ;
int *p1 = & x, *p2 = & y;
```
- What are the values of each of the following expressions?
- $(* p1)++$
  - $-- (*p2)$
  - $* p1 + (*p2) --$

P.T.O.

(2)

(iv) vertically ++ (\*p2) - \*p1

(v) ++(\*p1)

(vi) (\*p2) --

(Consider the expressions sequentially)

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b) Consider the statement :

```
int a = 10;
```

```
int b = ++ a;
```

```
int c = b ++;
```

```
int d = a ++;
```

```
printf (“%d, %d, %d, %d”, a, b, c, d);
```

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what are the outputs?

4. a) Write short notes on

2.5+2.5=5

i) fprintf & fscanf functions.    ii) character array and string.

b) Distinguish between

i) malloc and calloc    ii) call by value and call by reference.

2.5+2.5=5

5. a) Give examples of functions which

i) receives no input but returns a value.

ii) receives input but doesn't return any value.

2.5+2.5=5

b) Write a program in C to print the following number triangle.

5

5

4 5

3 5 5

2 3 4 5

1 2 3 4 5

0 1 2 3 4 5

6. a) Write a program in C to find the value of e from the sum of the series

5

$$1 + \frac{1}{1!} + \frac{1}{2!} + \dots + \frac{1}{10!}$$

b) Write a program in C to find the median of a data set.

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