

PPS CT-4Part A:

1. `int $main;` is an invalid variable name.  
Special characters used in variable name.
2.  $\left. \begin{array}{l} \text{size of (float)} = 4 \\ \text{size of (double)} = 8 \\ \text{size of (char)} = 1 \end{array} \right\} \rightarrow 13$
3. Redefinition of value/variable not allowed.
4. I [There is no format specifier for `bool`;  $\therefore$  `TRUE=1`, `FALSE=0`]
5.  $\left. \begin{array}{l} x = 10; \\ y = -x; // -10 \\ z = x++; // 10 \\ k = ++x; // 11+1 = 12 \end{array} \right\} \rightarrow \begin{array}{l} \text{Value of } y \text{ will be } -10 \text{ and} \\ k \text{ will be } 12 \end{array}$
6. \* In the statement, `5 + "GeeksQuiz"` :-  

$\downarrow$   
 initial shift state  $\rightarrow$  It indicates how many indexes it jumps from the beginning of string

G	e	e	k	s	Q	u	i	z	/	/	/
0	1	2	3	4	5	6	7	8			

$\underbrace{\hspace{10em}}_{\text{skips 5 indexes}} \rightarrow \text{Quiz}$
7. C is a middle level language
8. `==`  $\rightarrow$  Equality operator

9. In 11 ^ 5,  $\rightarrow$  Bitwise XOR :-  

$$\begin{array}{r} 8421 \\ 11 \rightarrow 1011 \\ 5 \rightarrow 0101 \\ \hline 1110 = 14 \end{array}$$
 (Apply ^)

A	B	A ^ B
0	0	0
0	1	1
1	0	1
1	1	0

10.  $a += 4$  means  $a = a + 4$

### Part B:-

11.  $\text{int result} = (\text{operator} == '+') ? (\text{num1} + \text{num2}) : (\text{num1} - \text{num2})$

(\*)

12. Datatype modifiers in C:-

1. signed :- <sup>used to modify range of the data type</sup> default modifier of int and char. It is used for holding both +ve & -ve values.  
 Eg:- signed int a = -5;

2. unsigned :- It is used on int and char. It is used for holding ~~non~~ non-negative / positive values.  
 Eg:- unsigned int a = 0; // 0 is +ve [All values  $\geq 0$ ]

3. short :- It is only used on int. It is used for holding small int values and used for saving memory space.  
 Eg:- short int a = 21324; (2 bytes)

4. long :- It is used only on int and double. It is used to increase size of current data type. (increase by 2 bytes)  
 Eg:- long int x = 1234567;  
 long double x = 10.2345;

(\*)

Data ~~type~~ type modifiers are used to modify range of data type and the memory space allocated to that variable.

(\*) Difference bet<sup>n</sup> short & long :- short  $\rightarrow$  increase size by 2 bytes  
 long  $\rightarrow$  decrease size by 2 bytes



13. String `*str;`

Note:- In float `str=3e2;` // 300.00

↳ means  $\times 10^2 = 100$

14. `%i` → format specifier for int ∴ Output: 15

15. ~~peri~~ `peri = 2 * 3.14 * r;`

`area = 3.14 * pow(r, 2);` // Include math h

### Part C:-

16. `#include <stdio.h>`

`int main() {`

`// Read 3 amounts (int)`

`// Sum of 3 amounts`

`// display Sum`

`return 0;`

`}`

17. `#include <stdio.h>`

`void main() {`

`float amount, rate, SI;`

`int months;`

`// Read amount & rate with scanf()`

`// Read months with scanf()`

`SI = amount * rate * months / 100;`

`printf("Simple interest: %f\n", SI);`

`}`

flowchart:-

