

No. _____
AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD
DEPARTMENT OF INFORMATION TECHNOLOGY

Sessional Test 2

Program: B.Tech
 Session: 2024-25
 Subject: P P S
 Max. Marks: 50

Semester: II
 Section: S-11 to S-20
 Subject Code: BCS-201
 Time: 2 Hours

OBE Remarks:

Q.No	1	2	3	4	5	6	7	8	9	10	11	12
CO No.	CO2	CO2	CO3	CO3	CO3	CO2	CO2	CO2	CO3	CO3	CO2	CO3
Bloom's Level* (L1 to L6)	L2	L4	L2	L4	L1	L1	L2, L3	L2, L3	L2, L3	L6	L2, L3	L2, L3
Weightage CO2: 26.5						Weightage CO3: 23.5						

*Bloom's Level: L1: Remember, L2: Understand, L3: Apply, L4: Analyze, L5: Evaluate, L6: Create
 Note: Answer all the sections with all the questions

Section-A

(2*5=10)

- Describe the syntax and working of the typecasting operator.
- If int a=2, b=3, x=0; Find the value of x= (++a, b+=a).
- Differentiate between structure and array.
- Write down the output of the following.

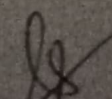
```
int main()
{
    int i=1;
    for(;;)
    {
        printf("%d",i);
        if(i==7)
            break;
    }
}
```

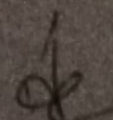
- Briefly explain the purpose of break and continue statements in programming, with syntax.

Section-B

(5*5=25)

- Explain Logical, Unary and Bitwise operators in detail.
- Explain operator precedence and associativity in C with suitable examples. Write a C program to take three integers as input and find the greatest number among them using only conditional (if-else) statements.
- Explain if, if-else, nested if-else and if-else ladder. Write a program to check entered year is leap year or not with conditional operator.
- Differentiate between while and do-while loops in C with at least two key points. Then, write a C program to print all prime numbers between 1 and n, where n is a user-input value.


 Faculty Sign


 HoD Sign


10. Write a program in C to print the following pattern:


```
2 3 4 5 6 7
3 4 5 6 7
4 5 6 7
5 6 7
6 7
7
```

Section-C

(7.5*2=15)

11. Explain the use of the switch statement in C, including its syntax and working. Write a C program that accepts marks (between 0 and 100) from the user and prints the corresponding grade using a switch statement. Use the following grading criteria:
- 90-100: Grade A \Rightarrow 90 <= 100
 - 70-89: Grade B
 - 60-69: Grade C
 - 40-59: Grade D
 - Below 40: Fail
12. Explain various types of array with their declaration and initialization. Write a program in C to input two 3x3 matrix from the user and print multiplication result in matrix form.


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