Jawaharlal Institute of Technology

TEST PAPER

Subject: C / C++ / MYSQL / PLSQL   **Max Marks   : 50**

Time: 2 hrs (11am to 1 pm)

SECTION A: "C PROGRAMMING LANGAUGE "   Marks (1* 9 = 09)

1. What does the `#define` directive do in C?

    A) It declares a function.
    B) It defines a constant or macro.
    C) It declares a variable.
    D) It is used to include header files.

2. What is the purpose of the `int main(int argc, char* argv[])` function signature in C?

    A) It specifies a function to take integer arguments.
    B) It is the entry point of a C program that accepts command-line arguments.
    C) It defines a function with no arguments.
    D) It is used for memory allocation.

3. What is the result of `sizeof(int)` on a 32-bit system?

    A) 1 byte

B)2 bytes
C) 4 bytes
D) bytes

4. In C, what is the purpose of the `continue` statement in a loop?

a) It terminates the loop.
b) It skips the rest of the loop's body and proceeds to the next iteration.
c) It returns a value from the loop.
d) It restarts the loop from the beginning.

5. Which standard C library function is used for character input from a file pointer?

a) **fgetc()**
b) **fgets()**
c) **getchar()**
d) **scanf()**

6. In C, what is the purpose of the assert macro?

a) **It checks if a file exists.**
b) **It evaluates an expression and, if it is false, triggers an assertion failure.**
c) **It is used to define macros.**
d) **It specifies the return type of a function.**

7. Which operator is used for pointer arithmetic in C?

a) **a+ (plus)**
b) **– (minus)**
c) *** (asterisk)**
d) **/ (forward slash)**

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8. What is the purpose of the strcat function in C?

a) It converts a string to uppercase.
b) It compares two strings.
c) It concatenates two strings.
d) It calculates the string length.

9. What is the output of the following code snippet?

Copy code

```
#include <stdio.h>

int main() {

    int x = 5;

    int y = x << 2;
```

```
printf("%d", y);

return 0;
```

A) 5
B) 10
C) 15
D) 20

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SECTION B: **"C++ PROGRAMMING LANGAUGE "** **MARKS (5 * 3 = 15)**

Q1.)

 Write a C++ program to implement a class called Circle that has private member variables for radius. Include member functions to calculate the circle's area and circumference.

Q2.)

 Write a C++ program to create a class called Rectangle that has private member variables for length and width. Implement member functions to calculate the rectangle's area and perimeter.

Q3.)

 Write a C++ program to create a class called Person that has private member variables for name, age and country. Implement member functions to set and get the values of these variables.

Q4.)

Write a C++ program to create a class called Car that has private member variables for company, model, and year. Implement member functions to get and set these variables.

Q5.)

Write a C++ program to implement a class called BankAccount that has private member variables for account number and balance. Include member functions to deposit and withdraw money from the account.

1.   Consider the following table STUDENT.

```
REGD.NO   NAME BRANCH
0001 Ram        CSE
0002 Hari       MECH
0003 Pradeep    EEE
0004 Deepak     ETC
```
Write down the SQL command which will show the Name and Branch column.
The SQL command which will show the NAME and BRANCH column is

2.   Consider the following table STUDENT.
```
REGD.NO   NAME BRANCH
0001 Ram        CSE
0002 Hari       MECH
0003 Pradeep    EEE
0004 Deepak     ETC
```
Write a SQL command which will count the number of rows existing in STUDENT table.
The SQL command which will count the number of rows present in STUDENT table is

3.   Consider the following table STUDENT.

```
REGD.NO    NAME BRANCH
0001 Ram        CSE
0002 Hari       MECH
0003 Pradeep    EEE
0004 Deepak     ETC
```
I want to add another column in the STUDENT table as"address". How can I do that?

4. List name, job and salary of all employees in department 20 who earn more than 2000/-.
5. Find all salesmen in department 30 whose salary is greater than 1500/-.

6. Find all employees whose designation is either manager or president.
7. Find all managers who are not in department 30.
8. Find all the details of managers and clerks in dept 10.

SECTION "D ":   **PLSQL**   **MARKS (5 * 2 = 10)**
1. Write a program in PL/SQL to find the number of rows affected by the use of SQL%ROWCOUNT attributes of an implicit cursor
2. Write a program in PL/SQL to show the uses of implicit cursor without using any attribute.
3. Write a program in PL/SQL to show the uses of SQL%FOUND to determine if a DELETE statement affected any rows.
4. Write a code in PL/SQL to create a trigger that prevents updates on a certain column during specific hours of the day.
5. Write a code in PL/SQL to implement a trigger that maintains a transaction history log whenever a row is deleted from a table.