



Computer science Holiday package
Senior 5 MCE & MPC

TERM III

26/06/2024

Answer all questions and trace an horizontal line after each answer

The order of questions is important

MAXIMUM MARKS IS 100 TO BE SCALED TO 30

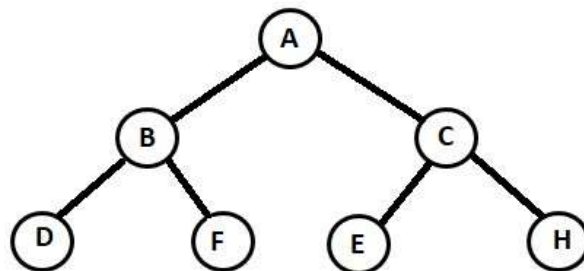
REMEMBER ALSO TO SUBMIT YOUR WORK TO THE PROVIDED EMAIL.

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- 1) List any five examples of portable devices. **(5 Marks)**
- 2) List and define three standards stream in java. **(6 Marks)**
- 3) Define this() and super() in java. **(5 Marks)**
- 4) Prove the exact output produced by the following main() routine: **(5 Marks)**

```
public static void main(String[] args)
{ int x,y; x = 5; y
= 1; while (x > 0)
{ x = x - 1; y = y
* x;
System.out.println(y); } }
```

- 5) Determine the order in which the elements would be accessed during Pre-Order, In Order and Post-Order traversals. **(6 Marks)**



- 6) Transmission media are broadly classified into two groups: Guided and Unguided media. Explain each group. **(5 Marks)**

- 7) A database contains a table with eight fields. The table currently has 100 records and each has data in each field. Answer the following question: **(3 Marks)**
- How many entities are contained in the database?
 - How many attributes are contained in database?
 - How many individual pieces of data are in the database?
- 8) Suggest an output of the following program **(2 Marks)**
- ```
#include<iostream>

using namespace std;
int main (){ int num, *ptr1, *ptr2; ptr1=#
ptr2=ptr1+8; cout<<"the difference is:"<<ptr2-
ptr1<<endl; return 0;
}
```
- 9) List any three advantages of inheritance **(3 Marks)**
- 10) Answer **TRUE** or **FALSE**, the following sentences related to vb: **(2 Marks)**
- A project is an anything that is found on the computer specifically on the desktop.
  - A class is collection of object with similar type
- 11) Write a class definition that creates a class called leverage with one private data member,crowbar, of type int and one public function whose declaration is void pry(). **(4 Marks)**
- 12) Write a Java program to print 'Hello' on screen and then print your name on a separate line. Using input from the user **(6 Marks)**
- 13) You are browsing a website on the internet while the speed is okay and suddenly you find that the page is loading slowly. Investigate the reason behind slowness? **(3 Marks)**
- 14) write a Java program to sort a numeric array and a string array.**(10 Marks)**
- 15) Using a pointer write a C++ program which will ask the user to enter data and compute the area of a rectangle. Area = width\*length. **(10 Marks)**

16) a) Represent the employee relation in the conceptual model **(4 Marks)**

| employees relation |           |         |         |           |
|--------------------|-----------|---------|---------|-----------|
| EmpId              | FirstName | Surname | Address | Birthdate |
|                    |           |         |         |           |
|                    |           |         |         |           |

b) The following table describes information about employees, study it and answer the following questions. **(6 Marks)**

| EmpId | EmpSname  | EmpFname    | EmpLocation | EmpJobCode |
|-------|-----------|-------------|-------------|------------|
| 1011  | RUKUNDO   | Jean Claude | Kigali      | 12         |
| 1013  | NYIRAMANA | Sylvane     | Huye        | 19         |
| 1014  | UWIMANA   | Yvette      | Muhanga     | 29         |
| 1021  | KAGABO    | Peter       | Musanze     | 13         |

- What is the possible domain for field EmpId?
- How many records are shown?
- How many attributes are shown?

17) Explain Elements of the Integrated Development Environment (IDE) in Visual basic **(15 Marks)**

**End !!!!**