This Question Paper consists of 31 questions and 6 printed pages.

Roll No. ⬚⬚⬚⬚⬚⬚⬚⬚,⬚⬚⬚ Code No. **64/OSS/2**

SET **A**

COMPUTER SCIENCE

(330)

Day and Date of Examination : _____

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General Instructions :

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COMPUTER SCIENCE

(330)

[Time : 3 Hours]	[Maximum Marks : 60]

Note : (i) Answer **all** questions.

(ii) Marks allotted to each question are given in the right hand side.

(iii) Use C++ programming language to answer the programming questions.

1. Define sorting. **1**

2. Explain normalization in database. **1**

3. Define Programming Language. **1**

4. What is HTML ? **1**

5. Define the term relational database. **1**

6. Contrast between Data and Information. **2**

7. Differentiate between DDL and DML. **2**

8. Contrast between Physical versus logical records. **2**

9. Compare between procedure oriented and problem oriented language. **2**

10. What is communication system ? **1**

11. Name the header files to the function gets() belong. **1**

12. Name the header files to the function puts() belong. **1**

13. Explain the term Data hiding. **1**

14. Define Class in C++. 1

15. Write a C++ statement using switch-case to display "ODD DIGIT" or "EVEN DIGIT" and 2
"NOT DIGIT" otherwise.

16. Explain nested if-else branch statement. 1

17. Write a function C++ to print the sum of all odd numbers till 100. 2

18. Explain the continue and the break statement. 2

19. What will be the value of sum after the following program is executed ? 3

```
void main()
{
    int sum, k;
    sum = 1;
    k = 9;
    do
    {
        k = k - 1;
        sum = 2 * sum;
    }
    while(k>0);
    cout << sum;
}
```

20. Write the output of the following program : 1

```
#define FALSE - 1
#define TRUE 1
#define NULL 0
main()
{
    if(NULL)
        cout<<"NULL";
    else if(FALSE)
        cout<<"TRUE";
    else
        cout<<"FALSE";
}
```

21. Write a function VERIFY() in C++ that accepts an alphabet and checks whether it is in uppercase or not. **3**

22. Predict the output of the following program : **2**

```
#include<iostream.h>
void main()
{
        double ch;
        cout<<"enter a value btw 1 to 2:";
        cin>>ch;
        switch(ch)
            {
                    case 1: cout<<"1";
                    break;
                    case 2: cout<<"2";
                    break;
            }
}
```

23. Define a class Employee with the following specifications : **3**

Private Members :

Employee code	Numeric
Employee name	String
Division	String
Organization	String

Public Members :

- A constructor that initializes all numeric members with 0 and all strings with "ABC".
- getdata()-that accepts the entire data
- showdata()-that displays the entire data

24. Consider the following class definition and answer the questions that follow : **3**

```
class Bags
{
        char bag_type[10];
        protected:
                float price;
                void deal_price(float);
        public:
                Bags();
                char choice;
                void baginput();
                void bagshow();
};
class MyBags : public Bags
{
        char mbag_name[10];
        float weight;
        protected:
                int no_chains;
        public:
                void MyInput();
};
```

(i)   Which type of inheritance is shown in the above example ?

(ii) Which all data members are accessible from MyInput() ?

(iii) Name the member functions which are accessible from the object of class MyBags.

25. Write a program to find the average number in an integer array of size 10. **4**

26. Explain implicit and explicit type conversion. **1**

27. Declare a structure DATE having Day(int), Month(int), Year(int). Thereafter create another class EMPLOYEE having the following members : **3**

Employee_code	of type integer
Name	of type string
Date of Birth	an instance of DATE
Date of Joining	an instance of DATE

Write a C++ statement to accept the value of Date of Joining from the user and print the complete record on the screen.

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28. Give a C++ statements to do the following :   **2**

    (i)   Create an float pointer fptr

    (ii)   Make ptr hold the address of an integer variable through pointer type casting.

29. Assuming the class SERVICE CENTRE defined below, write a user defined function to read the objects of SERVICE CENTRE from the binary file Service.dat and display the records of only 'XYZ' Brand car.   **4**

```
class SERVICE CENTRE
{
            int car_number;
            char car_name[13];
            char Entrdate;
            float valuation;
            char Brand[20];
    public:
            void enterdata()
            {
                cin>>car_number;
                gets(car_name);
                gets(Entrdate);
                cin>>valuation;
                gets(Brand);
            }
            void showdata()
            {
                Cout<<car_number<<car_name<<Entrdate<<valuation<<Brand;
            }
            char[]getbrand()
            {
                return Brand;
            }
};
```

30. Explain Multiple and Multilevel inheritance.   **3**

31. Describe any three essential characteristics of cloud computing.   **3**

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Roll No. ☐☐☐☐☐☐☐☐,☐☐☐   Code No. **64/OSS/2**

SET **B**

COMPUTER SCIENCE

(330)

Day and Date of Examination : _____

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COMPUTER SCIENCE

(330)

Time : 3 Hours]   **[Maximum Marks : 60**

Note :   (i)   Answer **all** questions.

         (ii)   Marks allotted to each question are given in the right hand side.

         (iii)   Use C++ programming language to answer the programming questions.

1. Define Programming Language.   **1**

2. Define a record.   **1**

3. Define sorting.   **1**

4. Explain normalization in database.   **1**

5. Compare between procedure oriented and problem oriented language.   **2**

6. What are the features of email ?   **2**

7. Define the term relational database.   **1**

8. Define the term information.   **1**

9. Differentiate between DDL and DML.   **2**

10. Contrast between Physical versus logical records.   **2**

11. Write a C++ statement using switch-case to display "ODD DIGIT" or "EVEN DIGIT" and "NOT DIGIT" otherwise.   **2**

12. Explain nested if-else branch statement.   **1**

13. Name the header files to the function gets() belong.   **1**

14. Name the header files to the function puts() belong.   **1**

15. Write the differences between multiple inheritance and multilevel inheritance. **1**

16. Define the IMG tag. **1**

17. Write a function C++ to print the sum of all odd numbers till 100. **2**

18. Write the output of the following program : **1**

```
#define FALSE - 1
#define TRUE 1
#define NULL 0
main()
{
    if(NULL)
        cout<<"NULL";
    else if(FALSE)
        cout<<"TRUE";
    else
        cout<<"FALSE";
}
```

19. Declare a class TIME in C++ that accepts three members hour, minute and seconds. Define a constructor to set the initial time of User's preference. **3**

20. Explain the continue and the break statement. **2**

21. What will be the value of sum after the following program is executed ? **3**

```
void main()
{
    int sum, k;
    sum = 1;
    k = 9;
    do
    {
        k = k - 1;
        sum = 2 * sum;
    }
    while(k>0);
    cout << sum;
}
```

22. Create two classes DM and DB which store the value of distances. DM stores it in meter and centimetres. DB store it in feet and inches. Write a program that can read values for the class objects. **3**

23. Define a class Employee with the following specifications : **3**

Private Members :

Employee code	Numeric
Employee name	String
Division	String
Organization	String

Public Members :

- A constructor that initializes all numeric members with 0 and all strings with "ABC".

- getdata()-that accepts the entire data

- showdata()-that displays the entire data

24. Predict the output of the following program : **2**

```
#include<iostream.h>

void main()

{

        double ch;

        cout<<"enter a value btw 1 to 2:";

        cin>>ch;

        switch(ch)

            {

                    case 1: cout<<"1";

                    break;

                    case 2: cout<<"2";

                    break;

            }

}
```

25. Write a program to find the average number in an integer array of size 10. **4**

26. Illustrate the use of pointer to array with a program. **2**

27. Assuming the class SERVICE CENTRE defined below, write a user defined function to read the objects of SERVICE CENTRE from the binary file Service.dat and display the records of only 'XYZ' Brand car. **4**

class SERVICE CENTRE

{

    int car_number;

    char car_name[13];

    char Entrdate;

    float valuation;

    char Brand[20];

  public:

    void enterdata()

    {

      cin>>car_number;

      gets(car_name);

      gets(Entrdate);

      cin>>valuation;

      gets(Brand);

    }

    void showdata()

    {

      Cout<<car_number<<car_name<<Entrdate<<valuation<<Brand;

    }

    char[]getbrand()

    {

      return Brand;

    }

};

28. Explain implicit and explicit type conversion. **1**

29. Declare a structure DATE having Day(int), Month(int), Year(int). Thereafter create another class EMPLOYEE having the following members : **3**

Employee_code	of type integer
Name	of type string
Date of Birth	an instance of DATE
Date of Joining	an instance of DATE

Write a C++ statement to accept the value of Date of Joining from the user and print the complete record on the screen.

30. Explain Multiple and Multilevel inheritance. **3**

31. Define and explain Green Computing in detail. **3**

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This Question Paper consists of 31 questions and 6 printed pages.

Roll No. ☐☐☐☐☐☐☐☐☐,☐☐☐ Code No. **64/OSS/2**

SET **C**

COMPUTER SCIENCE

(330)

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COMPUTER SCIENCE

(330)

Time : 3 Hours]   **[Maximum Marks : 60**

Note :   (i)   Answer **all** questions.

         (ii)   Marks allotted to each question are given in the right hand side.

        (iii)   Use C++ programming language to answer the programming questions.

1.   What is HTML ?   **1**

2.   Describe Query language.   **3**

3.   Explain normalization in database.   **1**

4.   Define sorting.   **1**

5.   Explain web page and browser.   **2**

6.   Compare between procedure oriented and problem oriented language.   **2**

7.   Contrast between Physical versus logical records.   **2**

8.   Define the term relational database.   **1**

9.   Define a record.   **1**

10.   Define DCL.   **1**

11.   Explain nested if-else branch statement.   **1**

12.   Write a C++ statement using switch-case to display "ODD DIGIT" or "EVEN DIGIT" and "NOT DIGIT" otherwise.   **2**

13.   Explain the term Abstraction from in C++.   **1**

14. Explain the term Inheritance C++. **1**

15. Name the header files to the function gets() belong. **1**

16. Name the header files to the function puts() belong. **1**

17. Write a function C++ to print the sum of all odd numbers till 100. **2**

18. Write a function VERIFY() in C++ that accepts an alphabet and checks whether it is in uppercase or not. **3**

19. What is the output of this program ? **4**

```
void main()
{
    int i=122;
    while(i!=97)
    i--;
    while(i>65)
    i--;
    cout<<char(i);
}
```

20. Write the output of the following program : **1**

```
#define FALSE - 1
#define TRUE 1
#define NULL 0
main()
{
    if(NULL)
        cout<<"NULL";
    else if(FALSE)
        cout<<"TRUE";
    else
        cout<<"FALSE";
}
```

21. Explain the continue and the break statement.   **2**

22. Obtain the minimum element from an array of size 10.   **3**

23. Consider the following class definition and answer the questions that follow :   **3**

```
class Bags
{
        char bag_type[10];
        protected:
            float price;
            void deal_price(float);
        public:
            Bags();
            char choice;
            void baginput();
            void bagshow();
};
class MyBags : public Bags
{
        char mbag_name[10];
        float weight;
        protected:
            int no_chains;
        public:
            void MyInput();
};
```

(i)   Which type of inheritance is shown in the above example ?

(ii)   Which all data members are accessible from MyInput() ?

(iii) Name the member functions which are accessible from the object of class MyBags.

24. Define a class Employee with the following specifications :   **3**

Private Members :

Employee code	Numeric
Employee name	String
Division	String
Organization	String

Public Members :

•   A constructor that initializes all numeric members with 0 and all strings with "ABC".

•   getdata()-that accepts the entire data

•   showdata()-that displays the entire data

25. Predict the output of the following program : 2

```cpp
#include<iostream.h>
void main()
{
        double ch;
        cout<<"enter a value btw 1 to 2:";
        cin>>ch;
        switch(ch)
            {
                    case 1: cout<<"1";
                    break;
                    case 2: cout<<"2";
                    break;
            }
}
```

26. Explain Multiple and Multilevel inheritance. 3

27. Give a C++ statements to do the following : 2

(i) Create an float pointer fptr

(ii) Make ptr hold the address of an integer variable through pointer type casting.

28. Declare a structure Vector having x-component, y-component and z-component : 2

x of type integer

y of type integer

z of type integer

Write a C++ statement to read and write a struct variable type.

29. Assuming the class SERVICE CENTRE defined below, write a user defined function to read **4**
    the objects of SERVICE CENTRE from the binary file Service.dat and display the records of
    only 'XYZ' Brand car.

    class SERVICE CENTRE
    {
            int car_number;
            char car_name[13];
            char Entrdate;
            float valuation;
            char Brand[20];
      public:
            void enterdata()
            {
                cin>>car_number;
                gets(car_name);
                gets(Entrdate);
                cin>>valuation;
                gets(Brand);
            }
            void showdata()
            {
                Cout<<car_number<<car_name<<Entrdate<<valuation<<Brand;
            }
            char[]getbrand()
            {
                return Brand;
            }
    };

30. Explain implicit and explicit type conversion. **1**

31. Explain Saas, Paas, Iaas in cloud computing. **3**

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