

COMPUTER SCIENCE

(330)

Time : 3 Hours]

[Maximum Marks : 60

-
- Note :** (i) Answer **all** questions.
(ii) Marks allotted to each question are given on the right-hand side.
(iii) Use C++ programming language to answer the programming questions.
-

- | | | |
|---|--|---|
| 1 | Name the header files to which the following built in functions belong : | 1 |
| | (i) fabs(x) | |
| | (ii) islower(c) | |
| 2 | What is the range that the integer data type supports? | 1 |
| 3 | Can reserved words of C++ be used as Identifier? | 1 |
| 4 | What do you mean by storage virtualization? | 1 |
| 5 | What do you mean by public cloud? | 1 |
| 6 | Explain container tag with an example. | 2 |
| 7 | Write any two features of OOP. | 2 |
| 8 | Explain nested if statement in C++ with its syntax. | 2 |
| 9 | Write a program to create an array of N elements, accept a number and location from the user, delete the accepted number from the array and print the new array. | 4 |



10 Predict the output of the following program :

2

```
int main() {int x=2;
    switch(x) {
        case 5 : cout<<"Five"; break;
        case 1 : cout<<"One"; break;
        case 2 : cout<<"Two"; break;
        default : cout<<"No output"; break;
    }
}
```

11 Find the output of the following code. Assume that all required header files are attached.

3

```
struct x {int a, b;};
struct y {x c; int d;};
void main(){
x d={5,10};
y f={ {2, 3}, 10};
    y g;
    g=f;
    g.c.a += 2;
cout<<g.c.a<< " "
    <<g.c.b<< " "
    <<g.d;
}
```

12 Find the output produced by the following program segment. Assume all header functions are imported.

2

```
Void main( )
{
int a=14;
int *b=&a;
cout<<a<<" "<<*b<<endl;
a++;
cout<<a<<" "<<*b<<endl;
}
```



- 13 Write SQL commands for the below given questions based on the below given EMP table. 3

EmpNo	EMPNAME	GENDER	DEPT	DATE_OF_JOIN	SALARY
E001A	PANKAJ	M	SALES	2019-06-01	26000.00
E002A	ANJU	F	MARKETING	2019-08-01	20000.00
E003A	SAHIL	M	HR	2020-01-15	32000.00
E004A	HARSHITHA	F	FINANCE	2020-09-14	30500.00
E005A	RAHUL	M	SALES	2021-07-13	17500.00
E006A	VEENA	F	FINANCE	2022-04-01	18600.00

- (i) Display the details of the employee belonging to MARKETING dept.
(ii) Change the salary of Pankaj to 30000.
(iii) Delete the record of the employee number E004A.
- 14 Identify how many times the loop gets executed : 2

```
int n=10;
while (n>=5)
{
    n--;
}
```

- 15 Explain Data and Data Processing. 2

- 16 Define a class EXAM in C++ with the following specifications : 4

Private Members :

EXAMID integer
EXAM_SUB 20 character
DURATION float
E_TYPE 20 character

Public functions:

A constructor to initialise DURATION as 180 and E_TYPE as "theory"
accept() to accept the full data
display() to display the full data



17 Consider the following class definition and answer the questions that follow : 3

```
Class Teacher
{
char tno[10], tname[20], qual[15];
int days;
void assign();
protected:
float rem;

public :
Teacher();
void TEntry();
void Tdisplay();
};

class student
{
Char regno[10], sname[20], course[20];
protected :
int attd, grd;
public:
student();
void ent();
void dsp();
};

Class school : public student, public teacher
{
char sno [12];
char sname[20];
public :
school();
void s_entry();
void s_detail();
};
```



- (i) What type of inheritance is used in the above example?
- (ii) Write the names of all the members accessible from member functions of the class school.
- (iii) If class school has derived privately from both student and teacher, then name the member functions that could be accessed by the objects of the class school.
- 18** Write a C++ program to write the odd numbers from 1 to 100 in a data file NUM.TXT. **3**
- 19** Define attribute in a relation. **1**
- 20** Write the html tag to display an image known as "nios.jpg" having a height of 40 pixels in your webpage. **2**
- 21** What will the below given html program produce? **3**
- ```

<html>
<body>
 <ul type=DISC>
 Control Structures
 Introduction to C++
 Basic Concepts
 Pointers

 <ol type='i'>
 DBMS
 HTML
 Emerging Trends
 Web Design

</body>
</html>

```



**22** Write the html tag to draw a red colour line on the center of the web page. **3**

**23** What do you mean by size of operator in C++? Support with an example. **2**

**24** What will be the values of the variables 'n', 's' and 'i' after the following code is executed? **3**

```
int n=2, s=0, i=6
for(n=12; n<=20; n++)
{
 if(n% 3 !=0)
 s=s+i;
}
cout<<n<< " " <<s<< " " <<i;
```

**25** What is the use of break statement in C++? **1**

**26** What do you mean by actual parameters? **1**

**27** What is the use of the parameter ios :: in? **1**

**28** What is the use of tellg( ) pointer? **1**



- 29 Define alternate key. 1
- 30 Name the text editor that can be used for writing html program. 1
- 31 What is the use of typedef statement. 1
- 





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

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

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

---

- |   |                                                                                                          |   |
|---|----------------------------------------------------------------------------------------------------------|---|
| 1 | What is the use of typedef statement.                                                                    | 1 |
| 2 | What is the use of tellg( ) pointer?                                                                     | 1 |
| 3 | What is the use of the parameter ios :: in?                                                              | 1 |
| 4 | Write any two application areas of mobile computing.                                                     | 1 |
| 5 | What do you mean by grid computing?                                                                      | 1 |
| 6 | Write the html tag to display an image known as "nios.jpg" having a height of 40 pixels in your webpage. | 2 |
| 7 | Write any two benefits of OOP.                                                                           | 2 |



- 8 Find the output produced by the following program segment. Assume all header functions are imported. 2

```
Void main()
{
int a=14;
int *b=&a;
cout<<a<<" "<<*b<<endl;
a++;
cout<<a<<" "<<*b<<endl;
}
```

- 9 Define a class EXAM in C++ with the following specifications : 4

**Private Members :**

EXAMID integer  
EXAM\_SUB 20 character  
DURATION float  
E\_TYPE 20 character

**Public functions:**

A constructor to initialise DURATION as 180 and  
E\_TYPE as "theory"  
accept( ) to accept the full data  
display( ) to display the full data

- 10 Identify how many times the loop gets executed : 2

```
int n=10;
while (n>=5)
{
 n--;
}
```



- 11 What will be the values of the variables 'n', 's' and 'i' after the following code is executed? **3**

```
int n=2, s=0, i=6
for(n=12; n<=20; n++)
{
 if(n% 3 !=0)
 s=s+i;
}
cout<<n<< " " <<s<< " " <<i;
```

- 12 Explain container tag with an example. **2**

- 13 Write SQL commands for the below given questions based on the below given EMP table. **3**

| EmpNo | EMPNAME   | GENDER | DEPT      | DATE_OF_JOIN | SALARY   |
|-------|-----------|--------|-----------|--------------|----------|
| E001A | PANKAJ    | M      | SALES     | 2019-06-01   | 26000.00 |
| E002A | ANJU      | F      | MARKETING | 2019-08-01   | 20000.00 |
| E003A | SAHIL     | M      | HR        | 2020-01-15   | 32000.00 |
| E004A | HARSHITHA | F      | FINANCE   | 2020-09-14   | 30500.00 |
| E005A | RAHUL     | M      | SALES     | 2021-07-13   | 17500.00 |
| E006A | VEENA     | F      | FINANCE   | 2022-04-01   | 18600.00 |

- (i) Display the details of the employee not belonging to MARKETING dept.  
(ii) Change the salary of all employees to 20000.  
(iii) Remove the table EMP.

- 14 Explain nested if statement in C++ with its syntax. **2**

- 15 Explain Manipulation stage of data processing. **2**

- 16 Write a program to create an array of N elements, accept a number and location from the user, delete the accepted number from the array and print the new array. **4**

- 17 Write a C++ program to write the odd numbers from 1 to 100 in a data file NUM.TXT. **3**



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

```
Class Teacher
{
char tno[10], tname[20], qual[15];
int days;
void assign();
protected:
float rem;

public :
Teacher();
void TEntry();
void Tdisplay();
};

class student
{
Char regno[10], sname[20], course[20];
protected :
int attd, grd;
public:
student();
void ent();
void dsp();
};

Class school : public student, public teacher
{
char sno [12];
char sname[20];
public :
school();
void s_entry();
void s_detail();
};
```

- (i) What type of inheritance is used in the above example?
- (ii) Write the names of all the members accessible from member functions of the class school.
- (iii) If class school has derived privately from both student and teacher, then name the member functions that could be accessed by the objects of the class school.



**19** Explain SQL. **1**

**20** Predict the output of the following program : **2**

```
int main() {int x=2;
 switch(x) {
 case 5 : cout<<"Five"; break;
 case 1 : cout<<"One"; break;
 case 2 : cout<<"Two"; break;
 default : cout<<"No output"; break;
 }
}
```

**21** Write the html tag to draw a red colour line on the center of the web page. **3**

**22** What will the below given html program produce? **3**

```
<html>
<body>
 <ul type=DISC>
 Control Structures
 Introduction to C++
 Basic Concepts
 Pointers

 <ol type='i'>
 DBMS
 HTML
 Emerging Trends
 Web Design

</body>
</html>
```



**23** Explain why do we use float data type in C++. Show an example for floating point value. **2**

**24** Find the output of the following code. Assume that all required header files are attached. **3**

```
struct x {int a, b;};
struct y {x c; int d:};
void main(){
x d={5,10};
y f={{2, 3}, 10};
y g;
g=f;
g.c.a += 2;
cout<<g.c.a<< " "
<<g.c.b<< " "
<<g.d;
}
```

**25** Name the header files to which the following built in functions belong : **1**

- (i) fabs(x)
- (ii) islower(c)

**26** Name the function that C++ program has by default. **1**

**27** Can reserved words of C++ be used as Identifier? **1**



- 28 What is the range that the integer data type supports? 1
- 29 What is the use of SQL? 1
- 30 Name any two web browsers. 1
- 31 What is the use of break statement in C++? 1
- 





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- Note :** (i) Answer **all** questions.  
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(iii) Use C++ programming language to answer the programming questions.
- 

- |   |                                                                                                      |   |
|---|------------------------------------------------------------------------------------------------------|---|
| 1 | What is the use of tellg( ) pointer?                                                                 | 1 |
| 2 | What is the use of the parameter ios :: in?                                                          | 1 |
| 3 | What is the use of typedef statement.                                                                | 1 |
| 4 | Write two advantages of mobile computing.                                                            | 1 |
| 5 | Write one objective of grid computing.                                                               | 1 |
| 6 | Find the output produced by the following program segment. Assume all header functions are imported. | 2 |

```
Void main()
{
int a=14;
int *b=&a;
cout<<a<<" "<<*b<<endl;
a++;
cout<<a<<" "<<*b<<endl;
}
```



- 7 Write any programming applications of OOP. 2
- 8 Write the html tag to display an image known as "nios.jpg" having a height of 40 pixels in your webpage. 2
- 9 Define a class EXAM in C++ with the following specifications : 4

**Private Members :**

EXAMID integer

EXAM\_SUB 20 character

DURATION float

E\_TYPE 20 character

**Public functions:**

A constructor to initialise DURATION as 180 and

E\_TYPE as "theory"

accept( ) to accept the full data

display( ) to display the full data

- 10 Explain container tag with an example. 2
- 11 What will be the values of the variables 'n', 's' and 'i' after the following code is executed? 3

```
int n=2, s=0, i=6
for(n=12; n<=20; n++)
{
 if(n% 3 !=0)
 s=s+i;
}
cout<<n<< " " <<s<< " " <<i;
```

- 12 Explain nested if statement in C++ with its syntax. 2



- 13** Write SQL commands for the below given questions based on the below given EMP table. **3**

EmpNo	EMPNAME	GENDER	DEPT	DATE_OF_JOIN	SALARY
E001A	PANKAJ	M	SALES	2019-06-01	26000.00
E002A	ANJU	F	MARKETING	2019-08-01	20000.00
E003A	SAHIL	M	HR	2020-01-15	32000.00
E004A	HARSHITHA	F	FINANCE	2020-09-14	30500.00
E005A	RAHUL	M	SALES	2021-07-13	17500.00
E006A	VEENA	F	FINANCE	2022-04-01	18600.00

- (i) Display the name of the employee having SALARY more than 25000.  
(ii) Modify the column gender to varchar(6).  
(iii) Delete the record of SAHIL.

- 14** Predict the output of the following program : **2**

```
int main() {int x=2;
 switch(x) {
 case 5 : cout<<"Five"; break;
 case 1 : cout<<"One"; break;
 case 2 : cout<<"Two"; break;
 default : cout<<"No output"; break;
 }
}
```

- 15** Explain sorting stage of data processing. **2**

- 16** Write a program to create an array of N elements, accept a number and location from the user, delete the accepted number from the array and print the new array. **4**



**17** What will the below given html program produce? **3**

```
<html>
<body>
 <ul type=DISC>
 Control Structures
 Introduction to C++
 Basic Concepts
 Pointers

 <ol type='i'>
 DBMS
 HTML
 Emerging Trends
 Web Design

</body>
</html>
```

**18** Write the html tag to draw a red colour line on the center of the web page. **3**

**19** Expand DCL. **1**

**20** Identify how many times the loop gets executed : **2**

```
int n=10;
while (n>=5)
{
 n--;
}
```

**21** Write a C++ program to write the odd numbers from 1 to 100 in a data file NUM.TXT. **3**



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

```
Class Teacher
{
char tno[10], tname[20], qual[15];
int days;
void assign();
protected:
float rem;

public :
Teacher();
void TEntry();
void Tdisplay();
};

class student
{
Char regno[10], sname[20], course[20];
protected :
int attd, grd;
public:
student();
void ent();
void dsp();
};

Class school : public student, public teacher
{
char sno [12];
char sname[20];
public :
school();
void s_entry();
void s_detail();
};
```

- (i) What type of inheritance is used in the above example?
- (ii) Write the names of all the members accessible from member functions of the class school.
- (iii) If class school has derived privately from both student and teacher, then name the member functions that could be accessed by the objects of the class school.



**23** Differentiate between '=' and '= =' operator in C++. **2**

**24** Find the output of the following code. Assume that all required header files are attached. **3**

```
struct x {int a, b;};

struct y {x c; int d:};

void main(){

x d={5,10};

y f={ {2, 3}, 10};

 y g;

 g=f;

 g.c.a += 2;

cout<<g.c.a<< " "
 <<g.c.b<< " "
 <<g.d;

}
```

**25** What is the range that the integer data type supports? **1**

**26** Which functions require ctype.h header file to be included in a C++ program? **1**

**27** What is the use of break statement in C++? **1**



- 28** Can reserved words of C++ be used as Identifier? **1**
- 29** What does the keyword 'default' do in MySQL? **1**
- 30** Expand WWW. **1**
- 31** Name the header files to which the following built in functions belong : **1**
- (i) fabs(x)
  - (ii) islower(c)
- 





**COMPUTER SCIENCE**  
**(330)**

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[Maximum Marks : 60

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- Note :**
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  - (ii) Marks allotted to each question are given on the right-hand side.
  - (iii) Use C++ programming language to answer the programming questions.
- 

- 1 Name the header files to which the following built in functions belong. 1
  - (i) log(x)
  - (ii) isalpha(c)
  
- 2 Is 7 and '7' the same according to C++? Justify your answer. 1
  
- 3 Can an Identifier in C++ contain\_ (underscore)? 1
  
- 4 What do you mean by software virtualization? 1
  
- 5 What do you mean by hybrid cloud? 1
  
- 6 Explain empty tag with an example. 2
  
- 7 Write any two uses of creating modules during programming. 2
  
- 8 Explain if... else statement in C++ with its syntax. 2
  
- 9 Write a program to create an array of N elements, using selection sort, sort the elements of the array in ascending order and print the new array. 4



- 10** Find the output of the following code. Assume that all required header files are attached. **1**

```
#include<iostream.h>
int main(){
int A[] = {10, 12, 15, 17, 20, 20, 30};
int i;
for (i=0; i < 6; i++){
 If (A[i] % 2 == 0)
 A[i] /= 2;
 If (A[i] % 5 == 0)
 A[i] /= 5;
 }
 for (i = 0; i < 6; i++)
 cout<< A[i] << "#";
 return 0;
}
```

- 11** struct str **3**

```
{
int a;
int b;
int c;
};
struct str1
{
char n[20];
str x;
}
void main()
{
str1 p;
}
```

How will you access n, a and b of the above structure?

- 12** Find the output produced by the following program segment. Assume all header functions are imported. **2**

```
void main()
{
int a = 100;
int *b = &a;
cout<<a<<" "<<*b<<endl;
a++;
cout<<a<<" "<<*b<<endl;
}
```



- 13** Write SQL commands for the below given questions based on the below given EMP table. **3**

EMPNO	EMPNAME	GENDER	DEPT	DATE_OF_JOIN	SALARY
E001A	PANKAJ	M	SALES	2019-06-01	26000.00
E002A	ANJU	F	MARKETING	2019-08-01	20000.00
E003A	SAHIL	M	HR	2020-01-15	32000.00
E004A	HARSHITHA	F	FINANCE	2020-09-14	30500.00
E005A	RAHUL	M	SALES	2021-07-13	17500.00
E006A	VEENA	F	FINANCE	2022-04-01	18600.00

- (i) Display the EMPNO AND SALARY of the employees belonging to MARKETING dept.  
(ii) Change the salary of Rahul to 18500.00  
(iii) Delete the record of the employee number E006A

- 14** Identify how many times the loop gets executed: **2**

```
int n = 10 ;
while (n >=5)
{
 n = n-2 ;
}
```

- 15** Define the terms Sorting and Summarizing. **2**

- 16** Define a class PRIME\_PACK in C++ with the following specifications **4**

Private members :

PACKID integer  
PACK\_NAME 20 character  
VALIDITY float  
PACK\_TYPE 20 character

Public functions :

A constructor to initialise VALIDITY as 365 and PACK\_TYPE as GOLD  
accept() to accept the full data  
display() to display the full data



- 17** Class one { **4**
- ```

    int A1;
    protected:
    float A2;
    public: one();
           void Get1(); void show1(); };
Class Two: private one {
    int B1;
    protected: float B2;
    public: Two(); void Get2(); void show2(); };

Class Three: public Two {
    int C1;
    public: Three(); void Get3(); void show3(); };
void main() {
    Three T; //statement 1
    _____ //statement 2
}

```
- (i) Which type of inheritance is illustrated in above example?
- (ii) Write the names of all member functions which are directly accessible by the object T of class Three.
- (iii) Write statement 2 to call function show2() from the object T.
- 18** Write a C++ program to write the even numbers from 2 to 100 in a data **3**
file NUM.TXT.
- 19** Define domain in databases. **1**
- 20** Write the html tag to display an image known as "nios.jpg" having a width **2**
of 40 pixels in your webpage.



21 What will the below given html program produce?

3

```
<html>
<body>

    <ul>
        <li>Control Structures</li>
        <li>Introduction to C++ </li>
        <li>Basic Concepts </li>
        <li>Pointers </li>
    </ul>

    <ol type = '1' START = 5>
        <li>DBMS</li>
        <li>HTML</li>
        <li>Emerging Trends</li>
        <li>Web Design</li>
    </ol>

</body>
</html>
```

22 Write the html tag to assign background colour of the webpage as green and the text colour as red.

3

23 What do you mean by string literal in C++? Support with an example.

2



- 24** Find the output of the following code. Assume that all required header files are attached. **3**

```
#include<iostream.h>

void replace (char s[]) {
for(int i=0; s[i]!='\0'; i++) {
    if ((i%2!=0) && s[i] != s[i+1])
    {
        s[i] = '@'
    }
else if (s[i] == s[i+1]) {
    s[i+1] = '!';
    i++;
    }
}
}

int main() { char str[] = "SUCCES";
    replace (str);
    cout << str;
    return 0;
}
```

- 25** What is the use of continue statement in C++? **1**
- 26** What do you mean by formal parameters? **1**
- 27** What is the use of the parameter ios :: out? **1**



- 28 What is the use of tellp() pointer? 1
- 29 Define foreign key. 1
- 30 Where do we see the output of a html document? 1
- 31 What is the use of enumerated data type? 1
-



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(330)

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

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

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

- | | | |
|----------|---|----------|
| 1 | What is the use of enumerated data type? | 1 |
| 2 | What is the use of tellp() pointer? | 1 |
| 3 | What is the use of the parameter ios :: out? | 1 |
| 4 | Write one advantage of Grid computing. | 1 |
| 5 | What do you mean by Green computing? | 1 |
| 6 | Write the html tag to display an image known as "nios.jpg" having a width of 40 pixels in your webpage. | 2 |
| 7 | Write any two advantages of OOP. | 2 |



- 8** Find the output produced by the following program segment. Assume all header functions are imported. **2**

```
void main()
{
int a = 100;
int *b = &a;
cout<<a<<" "<<*b<<endl;
a++;
cout<<a<<" "<<*b<<endl;
}
```

- 9** Define a class PRIME_PACK in C++ with the following specifications **4**

Private members :

PACKID integer

PACK_NAME 20 character

VALIDITY float

PACK_TYPE 20 character

Public functions :

A constructor to initialise VALIDITY as 365 and PACK_TYPE as GOLD

accept() to accept the full data

display() to display the full data

- 10** Identify how many times the loop gets executed: **2**

```
int n = 10 ;
while (n >=5)
{
    n = n-2 ;
}
```



- 11** Find the output of the following code. Assume that all required header files are attached. **3**

```
#include<iostream.h>
void replace (char s[]) {
for(int i=0; s[i]!='\0'; i++) {
    if ((i%2!=0) && s[i] != s[i+1])
    {
        s[i] = '@'
    }
else if (s[i] == s[i+1]) {
    s[i+1] = '!';
    i++;
    }
}
}
int main() { char str[]= "SUCCES";
    replace (str);
    cout << str;
    return 0;
}
```

- 12** Explain empty tag with an example. **2**

- 13** Write SQL commands for the below given questions based on the below given EMP table. **3**

EMPNO	EMPNAME	GENDER	DEPT	DATE_OF_JOIN	SALARY
E001A	PANKAJ	M	SALES	2019-06-01	26000.00
E002A	ANJU	F	MARKETING	2019-08-01	20000.00
E003A	SAHIL	M	HR	2020-01-15	32000.00
E004A	HARSHITHA	F	FINANCE	2020-09-14	30500.00
E005A	RAHUL	M	SALES	2021-07-13	17500.00
E006A	VEENA	F	FINANCE	2022-04-01	18600.00

- (i) Display the details of the employee belonging to MARKETING or SALES dept.
- (ii) Add a new column mobile int(10)
- (iii) Delete the record of the employees whose salary is less than 15000.



- 14 Explain if... else statement in C++ with its syntax. 2
- 15 Explain Calculation stage of Data Processing with an example. 2
- 16 Write a program to create an array of N elements, using selection sort, sort the elements of the array in ascending order and print the new array. 4
- 17 Write a C++ program to write the even numbers from 2 to 100 in a data file NUM.TXT. 3
- 18 Class one { 4
- ```

 int A1;
 protected:
 float A2;
 public: one();
 void Get1(); void show1(); };
Class Two: private one {
 int B1;
 protected: float B2;
 public: Two(); void Get2(); void show2(); };

Class Three: public Two {
 int C1;
 public: Three(); void Get3(); void show3(); };

void main() {
 Three T; //statement 1
 _____ //statement 2
}

```
- (i) Which type of inheritance is illustrated in above example?
- (ii) Write the names of all member functions which are directly accessible by the object T of class Three.
- (iii) Write statement 2 to call function show2() from the object T.



**19** Define Normalization. **1**

**20** Find the output of the following code. Assume that all required header files are attached. **1**

```
#include<iostream.h>

int main(){

int A[] = {10, 12, 15, 17, 20, 20, 30};

int i;

for (i=0; i < 6; i++){

 If (A[i] % 2 == 0)

 A[i] /= 2;

 If (A[i] % 5 == 0)

 A[i] /= 5;

}

for (i = 0; i < 6; i++)

 cout<< A[i] << "#";

return 0;

}
```

**21** Write the html tag to assign background colour of the webpage as green and the text colour as red. **3**



**22** What will the below given html program produce? **3**

```
<html>
<body>

 Control Structures
 Introduction to C++
 Basic Concepts
 Pointers

 <ol type = '1' START = 5>
 DBMS
 HTML
 Emerging Trends
 Web Design

</body>
</html>
```

**23** Explain the postfix operation of C++ with an example. **2**

**24** struct str **3**

```
{
int a;
int b;
int c;
};
struct str1
{
char n[20];
str x;
}
void main()
{
str1 p;
}
```

How will you access n, a and b of the above structure?



- 25** Name the header files to which the following built in functions belong. **1**
- (i) `log(x)`
  - (ii) `isalpha(c)`
- 26** When will `strcmp(S1, S2)` return 0 (zero)? **1**
- 27** Can an Identifier in C++ contain\_ (underscore)? **1**
- 28** Is 7 and '7' the same according to C++? Justify your answer. **1**
- 29** What do you mean by Conceptual Data Model? **1**
- 30** Can Multiple tags be applied together in HTML, Show an example. **1**
- 31** What is the use of continue statement in C++? **1**
- 





# COMPUTER SCIENCE

## (330)

Time : 3 Hours]

[Maximum Marks : 60

---

- Note :**
- (i) Answer **all** questions.
  - (ii) Marks allotted to each question are given on the right-hand side.
  - (iii) Use C++ programming language to answer the programming questions.
- 

- |          |                                                                                                      |          |
|----------|------------------------------------------------------------------------------------------------------|----------|
| <b>1</b> | What is the use of tellp() pointer?                                                                  | <b>1</b> |
| <b>2</b> | What is the use of the parameter ios :: out?                                                         | <b>1</b> |
| <b>3</b> | What is the use of enumerated data type?                                                             | <b>1</b> |
| <b>4</b> | Define the term Refurbish.                                                                           | <b>1</b> |
| <b>5</b> | What is the use of ENERGY STAR certified technology?                                                 | <b>1</b> |
| <b>6</b> | Find the output produced by the following program segment. Assume all header functions are imported. | <b>2</b> |

```
void main()
{
int a = 100;
int *b = &a;
cout<<a<<" "<<*b<<endl;
a++;
cout<<a<<" "<<*b<<endl;
}
```



7 What is the use of partitioning a program into individual components? 2

8 Write the html tag to display an image known as "nios.jpg" having a width of 40 pixels in your webpage. 2

9 Define a class PRIME\_PACK in C++ with the following specifications 4

Private members :

PACKID integer

PACK\_NAME 20 character

VALIDITY float

PACK\_TYPE 20 character

Public functions :

A constructor to initialise VALIDITY as 365 and PACK\_TYPE as GOLD

accept() to accept the full data

display() to display the full data

10 Explain empty tag with an example. 2

11 Find the output of the following code. Assume that all required header files are attached. 3

```
#include<iostream.h>
void replace (char s[]) {
for(int i=0; s[i]!='\0'; i++) {
 if ((i%2!=0) && s[i] != s[i+1])
 {
 s[i] = '@'
 }
else if (s[i] == s[i+1]) {
 s[i+1] = '!';
 i++;
}
}
}
int main() { char str[] = "SUCCES";
 replace (str);
 cout << str;
 return 0;
}
```



12 Explain if... else statement in C++ with its syntax. 2

13 Write SQL commands for the below given questions based on the below given EMP table. 3

EMPNO	EMPNAME	GENDER	DEPT	DATE_OF_JOIN	SALARY
E001A	PANKAJ	M	SALES	2019-06-01	26000.00
E002A	ANJU	F	MARKETING	2019-08-01	20000.00
E003A	SAHIL	M	HR	2020-01-15	32000.00
E004A	HARSHITHA	F	FINANCE	2020-09-14	30500.00
E005A	RAHUL	M	SALES	2021-07-13	17500.00
E006A	VEENA	F	FINANCE	2022-04-01	18600.00

- (i) Display the details of the male employee having salary less than 20,000.
- (ii) Drop the column gender.
- (iii) Change the gender to 'Male' for the male employees.

14 Find the output of the following code. Assume that all required header files are attached. 1

```
#include<iostream.h>
int main(){
int A[] = {10, 12, 15, 17, 20, 20, 30};
int i;
for (i=0; i < 6; i++){
 If (A[i] % 2 == 0)
 A[i] /= 2;
 If (A[i] % 5 == 0)
 A[i] /= 5;
}
for (i = 0; i < 6; i++)
 cout<< A[i] << "#";
return 0;
}
```



**15** Name the four stages that come in the manipulation step of data processing. **2**

**16** Write a program to create an array of N elements, using selection sort, sort the elements of the array in ascending order and print the new array. **4**

**17** What will the below given html program produce? **3**

```
<html>
<body>

 Control Structures
 Introduction to C++
 Basic Concepts
 Pointers

 <ol type = '1' START = 5>
 DBMS
 HTML
 Emerging Trends
 Web Design

</body>
</html>
```

**18** Write the html tag to assign background colour of the webpage as green and the text colour as red. **3**

**19** Define Cartesian Product of two tables. **1**



**20** Identify how many times the loop gets executed: **2**

```
int n = 10 ;
while (n >=5)
{
 n = n-2 ;
}
```

**21** Write a C++ program to write the even numbers from 2 to 100 in a data file NUM.TXT. **3**

**22** Class one { **4**

```
 int A1;
 protected:
 float A2;
 public: one();
 void Get1(); void show1(); };

Class Two: private one {
 int B1;
 protected: float B2;
 public: Two(); void Get2(); void show2(); };

Class Three: public Two {
 int C1;
 public: Three(); void Get3(); void show3(); };

void main() {
 Three T; //statement 1
 _____ //statement 2
}
```

- (i) Which type of inheritance is illustrated in above example?
- (ii) Write the names of all member functions which are directly accessible by the object T of class Three.
- (iii) Write statement 2 to call function show2() from the object T.



**23** What do you mean by conditional operator in C++? Support with an example. **2**

**24** struct str **3**

```
{
 int a;
 int b;
 int c;
};

struct str1
{
 char n[20];
 str x;
}

void main()
{
 str1 p;
}
```

How will you access n, a and b of the above structure?

**25** Is 7 and '7' the same according to C++? Justify your answer. **1**

**26** What do you mean by local variable? **1**

**27** What is the use of continue statement in C++? **1**



- 28 Can an Identifier in C++ contain\_ (underscore)? 1
- 29 Define Schema. 1
- 30 What is the use of <pre> .. </pre> tag in HTML. 1
- 31 Name the header files to which the following built in functions belong. 1
- (i) log(x)
  - (ii) isalpha(c)
- 



This Question Paper consists of **31** questions and **8** printed pages.

Roll No. 

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Code No. **65/OSS/1**

SET 

<b>A</b>
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**COMPUTER SCIENCE**  
**(330)**

**Day and Date of Examination** \_\_\_\_\_

**Signature of Invigilators**      1. \_\_\_\_\_

2. \_\_\_\_\_

---

**General Instructions :**

- 1 Candidate must write his/her Roll Number on the first page of the Question Paper.
- 2 Please check the Question Paper to verify that the total pages and total number of questions contained in the Question Paper are the same as those printed on the top of the first page. Also check to see that the questions are in sequential order.
- 3 Making any identification mark in the Answer-Book or writing Roll Number anywhere other than the specified places will lead to disqualification of the candidate.
- 4 Write your Question Paper Code No. **65/OSS/1, Set-

--



# COMPUTER SCIENCE

(330)

Time : 3 Hours]

[Maximum Marks : 60

---

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

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

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

---

- |   |                                                                          |   |
|---|--------------------------------------------------------------------------|---|
| 1 | Name the header files to which the following built in functions belong : | 1 |
|   | (i) cos(x)                                                               |   |
|   | (ii) isdigit(c)                                                          |   |
| 2 | What do you mean by character set in C++?                                | 1 |
| 3 | Can an Identifier in C++ start with a digit?                             | 1 |
| 4 | What do you mean by server virtualization?                               | 1 |
| 5 | What do you mean by private cloud?                                       | 1 |
| 6 | Explain <p> tag with an example.                                         | 2 |
| 7 | Define Data Abstraction in C++.                                          | 2 |



**8** Explain switch case statements in C++ with its syntax. **2**

**9** Write a program to create an array of N elements, accept a number from the user and by using linear search identify whether the accepted number is present in the array or not. **4**

**10** Predict the output of the following program : **2**

```
#include<iostream.h>
void calc (float);
void main()
{
float inp;
inp = 4;
calc (inp);
}
void calc(float inp_1)
{
inp_1 = inp_1*inp_1 + inp_1;
cout << "Calculated Value is" << inp_1 << "\n";
cout << "Have a nice day";
}
```

**11** struct datee **3**

```
{
int dd;
int mm;
int yyyy;
};
struct donor
{
char d_name[20];
datee dob;
}
void main()
{
donor human;
}
```

How will you access the d\_name, dd and mm of the above structure?



- 12** Find the output produced by the following program segment. Assume all header functions are imported. **2**

```
void main()
{
int a = 67;
int *b = &a;
cout << a << " " << *b << endl;
a++;
cout << a << " " << *b << endl;
}
```

- 13** Write SQL commands for the below given questions based on the below given EMP table. **3**

EMPNO	EMPNAME	GENDER	DEPT	DATE_OF_JOIN	SALARY
E001A	PANKAJ	M	SALES	2019-06-01	26000.00
E002A	ANJU	F	MARKETING	2019-08-01	20000.00
E003A	SAHIL	M	HR	2020-01-15	32000.00
E004A	HARSHITHA	F	FINANCE	2020-09-14	30500.00
E005A	RAHUL	M	SALES	2021-07-13	17500.00
E006A	VEENA	F	FINANCE	2022-04-01	18600.00

- (i) Display the details of the employee belonging to SALES dept.  
(ii) Change the salary of RAHUL to 18500.00.  
(iii) Delete the record of the employee number E006A.

- 14** Identify how many times the loop gets executed. **2**

```
int n = 5;
while (n <= 10)
{
 n++;
}
```



15 Differentiate Fixed length and variable length record. 2

16 Define a class play in C++ with the following specifications : 4

Private Members :

Playid integer

Playtitle 20 character

Duration float

Rating float

Public functions :

A constructor to initialise duration as 60 and rating as 3.5

Inp() to accept the full data

Opt() to display the full data

17 Observe the below given declaration and answer the questions that follow : 3

```
class A1{
protected:
 int x;
public:
 void get(int);
 void put(int);
 void show(int);
};
class B1{
protected:
 int y;
public:
 void getB(int);
 void showB(int);
};
class C1 : public A1, B1 {
public:
 void show1(int);
}
```

(i) Name the derived class.

(ii) Name the base class.

(iii) Identify the data and functions derived by the class C1.



**18** Write a C++ program to read the content from a text file MYFILE.TXT, count and display the number of alphabets present inside the file. **3**

**19** Define data redundancy. **1**

**20** Write the html tag to display an image known as "nios.jpg" having a border of 3 pixels in your webpage. **2**

**21** What will the below given html program produce? **3**

```
<html>
<body>

 <ul type=square>
 Control Structures
 Introduction to C++
 Basic Concepts
 Pointers

 DBMS
 HTML
 Emerging Trends
 Web Design

</body>
</html>
```



**22** Write the html tag to print the statement "Website designing using html" **3**  
using the font "Arial Black" of size 7.

**23** What do you mean by Explicit conversion in C++? Support with an **2**  
example.

**24** What will be the values of the variables 'n', 's' and 'i' after the following **3**  
code is executed?

```
int n = 1, s = 0, i = 5;
for (n=1;n<=10;n++)
{
 if (n % 2 == 0)
 s = s+i;
}
```

**25** What is the use of go to statement in C++? **1**

**26** What do you mean by function prototype? **1**

**27** What is the use of the parameter ios :: app? **1**

**28** What is the use of seekg( ) pointer? **1**



<b>29</b>	Define primary key.	<b>1</b>
<b>30</b>	Expand HTML.	<b>1</b>
<b>31</b>	Define structure.	<b>1</b>

---





# COMPUTER SCIENCE

(330)

Time : 3 Hours]

[Maximum Marks : 60

---

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

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

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

---

- |   |                                                                                                         |   |
|---|---------------------------------------------------------------------------------------------------------|---|
| 1 | Define structure.                                                                                       | 1 |
| 2 | What is the use of seekg() pointer?                                                                     | 1 |
| 3 | What is the use of the parameter ios :: app?                                                            | 1 |
| 4 | What do you mean by virtualization?                                                                     | 1 |
| 5 | What do you mean by cloud computing?                                                                    | 1 |
| 6 | Write the html tag to display an image known as "nios.jpg" having a border of 3 pixels in your webpage. | 2 |
| 7 | What is the advantage of inheritance?                                                                   | 2 |



- 8** Find the output produced by the following program segment. Assume all header functions are imported. **2**

```
void main()
{
int a = 67;
int *b = &a;
cout << a << " " << *b << endl;
a++;
cout << a << " " << *b << endl;
}
```

- 9** Define a class play in C++ with the following specifications : **4**

Private Members :

Playid integer

Playtitle 20 character

Duration float

Rating float

Public functions :

A constructor to initialise duration as 60 and rating as 3.5

Inp() to accept the full data

Opt() to display the full data

- 10** Identify how many times the loop gets executed. **2**

```
int n = 5;
while (n <= 10)
{
 n++;
}
```



- 11 What will be the values of the variables 'n', 's' and 'i' after the following code is executed? 3

```
int n=1, s=0, i=5;
for (n=1;n<=10;n++)
{
 if (n % 2 == 0)
 s = s+i;
}
```

- 12 Explain <p> tag with an example. 2

- 13 Write SQL commands for the below given questions based on the below given EMP table. 3

EMPNO	EMPNAME	GENDER	DEPT	DATE_OF_JOIN	SALARY
E001A	PANKAJ	M	SALES	2019-06-01	26000.00
E002A	ANJU	F	MARKETING	2019-08-01	20000.00
E003A	SAHIL	M	HR	2020-01-15	32000.00
E004A	HARSHITHA	F	FINANCE	2020-09-14	30500.00
E005A	RAHUL	M	SALES	2021-07-13	17500.00
E006A	VEENA	F	FINANCE	2022-04-01	18600.00

- (i) Insert a record into the table EMP with the values (EMPNO - E007A, EMPNAME - 'SOHAL', GENDER - 'M', DEPT - 'SALES', DATE\_OF\_JOIN - '2023-01-15', SALARY - 13000)
- (ii) Display the records in ascending order to EMPNAME.
- (iii) Add a new column address varchar(20).

- 14 Explain switch case statements in C++ with its syntax. 2

- 15 What do you mean by logical record? 2



**16** Write a program to create an array of N elements, accept a number from the user and by using linear search identify whether the accepted number is present in the array or not. **4**

**17** Write a C++ program to read the content from a text file MYFILE.TXT, count and display the number of alphabets present inside the file. **3**

**18** Observe the below given declaration and answer the questions that follow : **3**

```
class A1{
Protected:
 int x;
public:
 void get(int);
 void put(int);
 void show(int);
};
class B1{
protected:
 int y;
public:
 void getB(int);
 void showB(int);
};
class C1 : public A1,B1 {
public:
 void show1(int);
}
```

- (i) Name the derived class.
- (ii) Name the base class.
- (iii) Identify the data and functions derived by the class C1.

**19** What do you mean by SQL is a non case-sensitive language? **1**



**20** Predict the output of the following program : **2**

```
#include<iostream.h>
void calc (float);
void main()
{
float inp;
inp = 4;
calc (inp);
}
void calc(float inp_1)
{
inp_1 = inp_1*inp_1 + inp_1;
cout << "Calculated Value is" << inp_1 << "\n";
cout << "Have a nice day";
}
```

**21** Write the html tag to print the statement "Website designing using html" using the font "Arial Black" of size 7. **3**

**22** What will the below given html program produce? **3**

```
<html>
<body>

 <ul type=square>
 Control Structures
 Introduction to C++
 Basic Concepts
 Pointers

 DBMS
 HTML
 Emerging Trends
 Web Design

</body>
</html>
```



**23** What do you mean by Decimal Integer Constant? Support with an example. **2**

**24** struct datee **3**

```
{
int dd;
int mm;
int yyyy;
};
struct donor
{
char d_name[20];
datee dob;
}
void main()
{
donor human;
}
```

How will you access the d\_name, dd and mm of the above structure?

**25** Name the header files to which the following built in functions belong : **1**

(i) cos(x)

(ii) isdigit(c)

**26** What is the use of getchar( ) function? **1**



- 27 Can an Identifier in C++ start with a digit? 1
- 28 What do you mean by character set in C++? 1
- 29 Expand DDL. 1
- 30 What kind of brackets is used for representing html tags? 1
- 31 What is the use of go to statement in C++? 1
- 





# COMPUTER SCIENCE

(330)

Time : 3 Hours]

[Maximum Marks : 60

---

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

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

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

---

- |   |                                                                                                      |   |
|---|------------------------------------------------------------------------------------------------------|---|
| 1 | What is the use of seekg() pointer?                                                                  | 1 |
| 2 | What is the use of the parameter ios :: app?                                                         | 1 |
| 3 | Define structure.                                                                                    | 1 |
| 4 | What do you mean by On-demand Self-service?                                                          | 1 |
| 5 | What do you mean by Cloud Platform as a Service?                                                     | 1 |
| 6 | Find the output produced by the following program segment. Assume all header functions are imported. | 2 |
- ```
void main()  
{  
int a = 67;  
int *b = &a;  
cout << a << " " << *b << endl;  
a++;  
cout << a << " " << *b << endl;  
}
```



- 7 Define Polymorphism in C++. 2
- 8 Write the html tag to display an image known as "nios.jpg" having a border of 3 pixels in your webpage. 2
- 9 Define a class play in C++ with the following specifications : 4

Private Members :

Playid integer

Playtitle 20 character

Duration float

Rating float

Public functions :

A constructor to initialise duration as 60 and rating as 3.5

Inp() to accept the full data

Opt() to display the full data

- 10 Explain <p> tag with an example. 2
- 11 What will be the values of the variables 'n', 's' and 'i' after the following code is executed? 3

```
int n = 1, s = 0, i = 5;
for (n=1; n<=10; n++)
{
    if (n % 2 == 0)
        s = s+i;
}
```



12 Explain switch case statements in C++ with its syntax. **2**

13 Write SQL commands for the below given questions based on the below given EMP table. **3**

| EMPNO | EMPNAME | GENDER | DEPT | DATE_OF_JOIN | SALARY |
|-------|-----------|--------|-----------|--------------|----------|
| E001A | PANKAJ | M | SALES | 2019-06-01 | 26000.00 |
| E002A | ANJU | F | MARKETING | 2019-08-01 | 20000.00 |
| E003A | SAHIL | M | HR | 2020-01-15 | 32000.00 |
| E004A | HARSHITHA | F | FINANCE | 2020-09-14 | 30500.00 |
| E005A | RAHUL | M | SALES | 2021-07-13 | 17500.00 |
| E006A | VEENA | F | FINANCE | 2022-04-01 | 18600.00 |

- (i) Display the EMPNO, EMPNAME, SALARY of all employees.
- (ii) Increase the salary of all employees by 1000.
- (iii) Display the records in descending order of EMPNO.

14 Predict the output of the following program : **2**

```
#include<iostream.h>
void calc (float);
void main( )
{
float inp;
inp = 4;
calc (inp);
}
void calc(float inp_1)
{
inp_1 = inp_1*inp_1 + inp_1;
cout << "Calculated Value is" << inp_1 << "\n";
cout << "Have a nice day";
}
```



15 What do you mean by physical record? **2**

16 Write a program to create an array of N elements, accept a number from the user and by using linear search identify whether the accepted number is present in the array or not. **4**

17 What will the below given html program produce? **3**

```
<html>
<body>

    <ul type=square>
        <li>Control Structures </li>
        <li>Introduction to C++ </li>
        <li>Basic Concepts </li>
        <li>Pointers </li>
    </ul>

    <ol>
        <li>DBMS </li>
        <li>HTML </li>
        <li>Emerging Trends </li>
        <li>Web Design </li>
    </ol>
</body>
</html>
```

18 Write the html tag to print the statement "Website designing using html" using the font "Arial Black" of size 7. **3**

19 What values should be enclosed in double quotation marks of Insert command of SQL? **1**



20 Identify how many times the loop gets executed. **2**

```
int n = 5;
while (n <= 10)
{
    n++;
}
```

21 Write a C++ program to read the content from a text file MYFILE.TXT, count and display the number of alphabets present inside the file. **3**

22 Observe the below given declaration and answer the questions that follow : **3**

```
class A1{
Protected:
    int x;
public:
    void get(int);
    void put(int);
    void show(int);
};
class B1{
protected:
    int y;
public:
    void getB(int);
    void showB(int);
};
class C1 : public A1, B1 {
public:
    void show1(int);
}
```

(i) Name the derived class.

(ii) Name the base class.

(iii) Identify the data and functions derived by the class C1.



23 What do you mean by Hexadecimal Integer Constant? Support with an example. **2**

24 struct datee **3**

```
{  
int dd;  
int mm;  
int yyyy;  
};  
struct donor  
{  
char d_name[20];  
datee dob;  
}  
void main()  
{  
donor human;  
}
```

How will you access the d_name, dd and mm of the above structure?

25 What do you mean by character set in C++? **1**

26 What is the use of putchar() function? **1**

27 What is the use of goto statement in C++? **1**



- 28** Can an Identifier in C++ start with a digit? **1**
- 29** Expand DML. **1**
- 30** Can we use our own tags in HTML? **1**
- 31** Name the header files to which the following built in functions belong : **1**
- (i) `cos(x)`
 - (ii) `isdigit(c)`
-

