

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

65/OSS/1-330-A]

2



[Contd...

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>
        <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>
```



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

23 What do you mean by Explicit conversion 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 = 1, s = 0, i = 5;
for (n=1;n<=10;n++)
{
    if (n % 2 == 0)
        s = s+i;
}
```

25 What is the use of goto 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



- 29 Define primary key. 1
- 30 Expand HTML. 1
- 31 Define structure. 1
-

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[Maximum Marks : 60

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

65/OSS/1-330-B]

2



[Contd...

- 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>
        <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>
```



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

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 - (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;
}
```

65/OSS/1-330-C ]

2



[ Contd...

- 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>
 Control Structures
 Introduction to C++
 Basic Concepts
 Pointers

 DBMS
 HTML
 Emerging Trends
 Web Design

</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)  $\text{isdigit}(c)$

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