

This Question Paper consists of 33 questions of "New Syllabus" and 06 questions of "Old Syllabus" and 16 total printed pages.

Sl. No.

Roll No.

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Code No. "NEW SYLLABUS" : 60/OSS/1/NEW

Code No. "OLD SYLLABUS" : 60/OSS/1/OLD

Set

C

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. **60/OSS/1/NEW OR 60/OSS/1/OLD, Set - C** (as applicable) on the Answer-Book.



IMPORTANCE INSTRUCTIONS

1. This Question Paper Booklet contains two Question Papers - one based on revised study material marked as **New Syllabus** and the other based on pre-revised study material marked as **Old Syllabus**.
2. **New Syllabus** is compulsory for candidates those who have registered for 2019-20 (Block-I) admission and are appearing in March-April - 2020 Examinations.
3. **Old Syllabus** is compulsory for those who had registered before 2019-20 (Block-I) admission.
4. Candidates are required to answer only one Question Paper from the given two Question Papers.
5. Candidates are not allowed to mix questions from the given two Question Papers.

**COMPUTER SCIENCE
(330) (New syllabus)**

Time : 3 Hours]

[Maximum Marks : 60

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

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

1. Define PaaS in cloud computing. [1]
2. Name the header files to which the following built in functions belong [2 × ½ = 1]
 - i) gets()
 - ii) strcmp()
3. Give two differences between << and >> operators. [2]
4. Assume an integer variable MyNumber. Write a C++ statement **using Conditional Operator** to assign the value 0 to variable X, if the MyNumber is odd and 1 if MyNumber is even. [1]
5. Differentiate between JPG and GIF image formats. [2]
6. Explain the following terms with examples from C++ [2 × 1 = 2]
 - i) Encapsulation
 - ii) Polymorphism
7. Which of the following identifiers cannot be used for naming variable, constants or functions in a program: [1]
_wrong1, 1swissroll, int, Else, MAIN, Not_Good
8. In a switch..case statement, when is the default statement executed? [1]

9. Write a function CHECKPRIME(), that takes a number as an argument and checks whether it is a prime number or not. [2]

10. Predict the output of the following program : [2]

```
# include<ctype.h>
#include<stdio.h>
void main ( )
{
char STR[ ]="#E1x2";
for (int b=0; STR[b] != ' \0 ' ; b++)
{
    if (!isdigit(STR[b]))
        STR[b] = '@' ;
    else if (isupper (STR[b]))
        STR [b] = '*';
    else
        STR [b] = STR[b+1];
}
puts (STR) ;
}
```

11. Find the syntax errors from the following program. Justify each error. [2]

```
#include<iostream. h>
void main()
{
float al=11. 0;
Try_this(fvarl);
}
float Try_this( float fvarl)
{
    fvarl++;
    cout<< ' The Number is '<<fvarl;
}
```

- 12.** Write the output of the following code. Assume all the required header files are already included. **[3]**

```
#include<iostream. h>
int score=50;
void Testify(int& var , char ch='K')
{
    var=var*score;
    if (var%10==0)
        cout<<ch;
    else
        cout<<"Sorry";
}
void main()
{
    int score=15;
    char cstr= 'P';
    Testify(: :score,cstr);
    cout<<score<<"*** " <<cstr<<endl;
    Testify (score);
    cout<<score<<"*** " <<cstr<<endl;
    Testify(score, 'D');
    cout<<: : score<<" " <<cstr<<endl;
}
```

- 13.** Write a function CHECK() in C++ which accepts a number as an argument and displays the sum of digits of this number. For eg for input 123 o/p 6 is displayed. **[2]**
- 14.** Write a function that takes an array of 50 integers and a number as an argument and displays the position of the number using binary search. **[2]**
- 15.** What is the use of typedef statement? **[1]**
- 16.** Define a static variable. **[1]**

17. Declare a structure CONTACT having Building(string), Floor(int), Street(string) and City(string) as its members. Thereafter create another structure COMPANY having the following members :

Reg_No of type integer
CName of type string
Revenue of type float
Address an instance of CONTACT

Write a C++ statement to accept the value of street from the user. [3]

18. Define a class Sports_Academy in C++ with following descriptions: [4]

Private members :

SCode of type Long
SName of type String
Course_Fees of type Float
Duration of type integer

Public members :

- Constructor to assign initial values of SCode as 9999, SName as “Khelo”, course_fees as 100, Duration 99
- A function Enter() which allows the user to enter SCode, SName and Duration. Also assign the values to Course_Fees as 1000 if duration is more than 100.
- A function DisplaySports() to display all the details of data members.

19. Consider the following class definition and answer the questions that follow.[3]

```
class COUNTRY
{
    int population;
protected:
    int states;
    float revenue;
```

```

public:
COUNTRY ();
~COUNTRY ();
void INPUT ();
void OUTPUT ();
};
class WORLD: protected COUNTRY
{
char period;
protected:
int countries;
int continents;
public:
WORLD () ;
~WORLD () :
void INDATA();
void OUTDATA ();
};
class FORUM: public WORLD
{
char Chairman[10];
public:
FORUM ();
~FORUM ();
void ENTER ();
void DISPLAY ();
};

```

- i) Which type of inheritance is shown in the above code?
- ii) Name the data member(s) that can be accessed from function DISPLAY ().
- iii) Name the member function(s) which can be accessed from the objects of class FORUM.

20. Define Bold & Italic pointer. [1]

21. Give C++ statements to do the following : [2 × ½ = 1]

- i) Create an integer pointer myptr
- ii) Make myptr hold the address of another integer variable var.

22. Give one point of difference between ios::app and ios::out. [1]

23. Write the statement to display the position of the write pointer in a file that is opened using the ifstream object named F1. [1]

24. Assuming the class CLINIC defined below. Write a user defined function to add the objects of CLINIC at the end of the binary file clinicdata.dat. The records should be entered till the user wishes to. [3]

```
class CLINIC
{
    int Patient_Id
    char Patient_Name [13];
    float fees ;
    char Attending_Doctor [30];
public:
    void enterdata ()
    {
        cin>>Patient_Id;
        gets (Patient_Name) ;
        gets (Attending_Doctor) ;
        cin>>fees;
    }
    void showdata ()
    {cout<<Patient_Id<<Patient_Name<<fees<<Attending_Doctor;}
    } ;
```


25. Define normalization. [1]

26. Define the following for data processing activities : [2]

- i) Retrieving
- ii) Summarizing

27. Observe the table -EMPLOYEES given below and write the queries (i), (ii) and (iii) that follow. [3 × 1 = 3]

Table : EMPLOYEES

EMPID	FNAME	LNAME	ADD	CITY
101	MRINALINI	JAIN	45 AVE	BANGALORE
109	SAMARTH	TOBY	67 DLF	GURGAON
106	SARAH	KHAN	98 CPURI	DELHI
116	MANI	SWAMY	77 CDG	CHANDIGARH
234	ROHIT	SAMBAL	65 DLH	N DELHI
452	RANJIT	LOTA	33 SLOK	GURGAON
674	PEETAMBAR	TRILOK	42 GM	MUMBAI

- i) To delete the record of the employee whose city is MUMBAI
- ii) To add another field, DOB which is of type Date.
- iii) To display EMPID and first name of all employees.

28. Define a candidate key. [1]

29. Differentiate between container and empty elements. Give two examples of each. [2]

30. Design the following web page with the specifications given below. [3]

Internet

Internet is network of networks. It connects each one of us across the globe. Using Internet, we can send emails, watch videos, book airline, railway or movie tickets.

It also helps us to view online tutorials.

- i) The title of the page should be Internet.
 - ii) The background colour of the page is pink and the text colour is red of Paragraph text.
 - iii) The heading is in the centre of the page, has the font style as “Impact”, colour as blue and size as 20.
 - iv) The paragraph should be of font size 16.
 - v) The solid line in the centre is of 5 pixels width, is of blue colour and covers half the page.
31. Give one difference between BACKGROUND and BGCOLOR attributes of <BODY> element. [1]
32. Write the HTML code to create the following list (Boundary Rectangle not required). [3]

Types of Networks	
•	PAN
•	LAN
•	MAN
•	WAN
Applications of Networks	
A.	Sharing of Resources
B.	Communicating with any one across the globe

33. Define Storage virtualization in modern computing environment. [1]



**COMPUTER SCIENCE
(330) (Old syllabus)**

Time : 3 Hours]

[Maximum Marks : 60

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

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

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

1. Define the following : **[4 × 1 = 4]**

- a) Teleconferencing
- b) FTP
- c) Internet
- d) Literals

2. a) Explain in brief different communication media. **[3]**

b) Name the protocol that is used to download e-mails from a web server. **[1]**

c) Differentiate between the following : **[3 × 2 = 6]**

- i) System software and Application Software
- ii) PROM and EPROM
- iii) Gateway Access and TCP/IP Connection

d) What is Shell connection? What are its limitations? **[1]**

3. a) Name the header files to which the following built in functions belong: & give one line description of the function. [2 × 1 = 2]

i) isalnum()

ii) strcat()

b) Explain the following terms with examples from C++: [2 × 2 = 4]

i) Objects

ii) Polymorphism

c) Write a program to accept a number n and print the following series : [3]

0, 1, 1, 2, 3, 5, 8, n

d) Which of the following cannot be used as an identifier in C++ programs?[1]

myfile, int, Break, roll-no, _123, Integer

e) What is difference between a keyword and identifier? [2]

4. a) Write a function VALIDATE in C++ which accepts an alphabet as an argument and print whether it is in upper case or in lower case. [3]

b) Write a C++ statement to print larger number from any two numbers, entered by user.

(without using if ..else statement) [1]

- c) Find the syntax errors from the following program. Justify each error. [2]

```
int main()
{
    int X=10,Y=15;
    cout<<sum_val(X, Y);
}

sum_val(int x, y)
{
    return x-y;
}
```

- d) What is the difference between + and ++ operators? Give example in support of your answer. [2]

- e) Write the output of the following program : [3]

```
int a=10;

void Print(int a)
{
    if(a%4==0) cout<<::a/2<<',';
    else cout<<a*2<<endl;
}

void main()
{
    for(int x=-2; x<=6; x++)
        Print(x);
    cout<<a * x<<endl;
}
```

5. a) Write a program in C++ to find and print the second largest number in an array of size N. [4]

b) Predict the output of the following program : [2]

```
void main( )  
{   char wish[] = "ALLTHEBEST";  
    int i=0;  
    while(wish[i]!='\0')  
        i++;  
    int Len=i;  
    for(int I=Len-1; I>=0; I--)  
    {   for(int J=0; J<=I; J++) cout<<wish[J];  
        cout<<endl;  
    }  
}
```

c) Define a class Mobile in C++ with the following descriptions : [3]

Private members:

m_code, m_type and m_os_name of type string

m_mrp_value, m_discount and m_sale_price of type float

Public Members:

i) A constructor to assign initial values of m_code with "MCODE01", m_type with "Tablet", m_os_name with "Android", m_mrp_value, m_discount and m_sale_price with 0.

ii) A function GetData() to input the values of the all data members.

iii) A function to Display() which displays the content of all the data members for a Mobile.

d) Write a program in C++ to Sort n names in ascending order. [3]

6. a) Differentiate among the ios::out, ios::app, ios::ate and ios::in. [2]
- b) Given a binary file “ELECTION.DAT”, containing records of the given class Election.

```
class Election
{
    int ward_no ;

    char candidate[20]; /*name of candidate*/

public:
    void input( )
    {
        cin>>ward_no>>candidate;
    }

    void output( )
    {
        cout<<ward_no<<candidate;
    }

    char* ret_candidate( )
    {
        return candidate;
    }
};
```

Write a function to read a file ELECTION.DAT to print only those records whose name begin with ‘B’. [3]

c) Give the C++ statements to do the following : [2]

i) Declare a constant pointer of float type.

ii) Initialize an integer pointer with the address of an integer variable.

d) Define a C++ nested structure for the record given below. Use appropriate data type.

RollNo.	Name	Marks	Address	DOB
			House No.	day
			City	Month
			State	Year
			PIN Code	

Write a C++ statement to the assign a value of each variable in a nested structure. [2]

e) Define typedef. [1]

