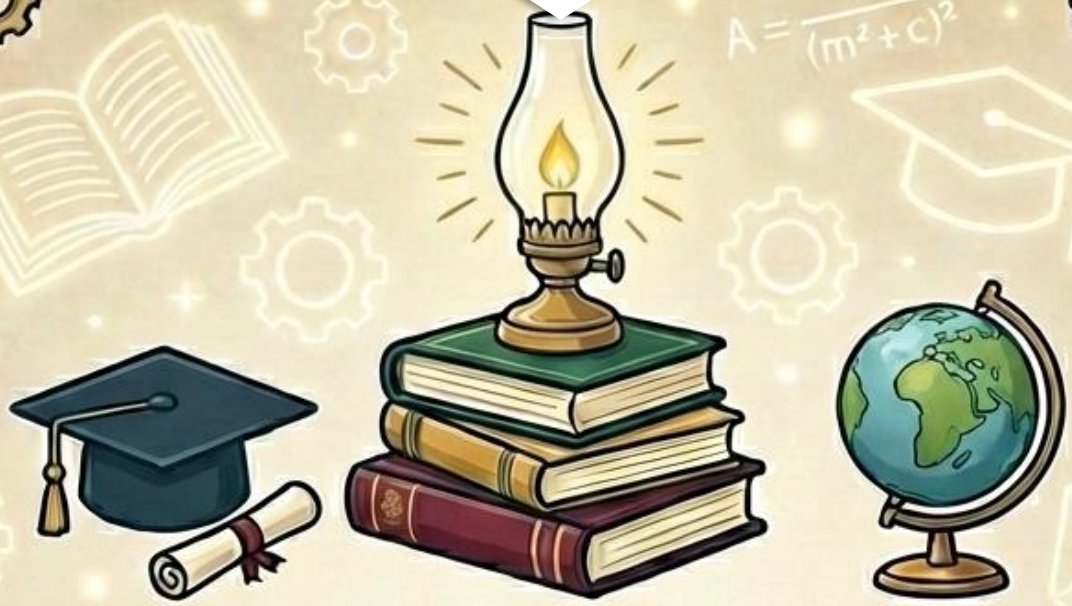

NIOS PYQ's SOLUTIONS

PREVIOUS YEARS' QUESTIONS & ANSWERS

APRIL-2025

Your Path to Success

SECTION - A

1. A tag is a special word enclosed within

(A) [ ] **(B) ( )**

(C) < > **(D) { }**

Answer - (C) < >

2. Which view allows you to organize and manage the sequence of slides?

(A) Slide show

(B) Notes view

(C) Slide sorter view

(D) Outline view

Answer - (C) Slide sorter view

3. Identify the recommended image format for webpages.

(A) .pdf

(B) .doc

(C) .ppt

(D) None of these

Answer - **(**D) None of these

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4. The library in C++ provides support for

(A) mathematical functions

(B) character functions

(C) string functions

(D) All of the above

Answer - (D) All of the above

4. Which of the following is an example for structural tag in HTML?

(A) <html>

(B) <head>

(C) <title>

(D) All of these

Answer - (D) All of these

6. Align in HTML is

(A) a tag

(B) a command

(C) an attribute

(D) None of the above

Answer - (C) an attribute

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7. Find the output produced by the following program segment (assume all header functions are included) :

```
void main( )
{
int x=965;
int *y=&x;
cout <<*y;
}
```

(A) 965

(B) *965

(C) *x

(D) *y

Answer – (A) 965

8. Size attribute is used to specify the

(A) size of the image in HTML

(B) width of the image in HTML

(C) height of the image in HTML

(D) No such attribute for the image in HTML

Answer – (D) No such attribute for the image in HTML

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9. Which of the following is an attribute of the <BODY> tag?

(A) Background img

(B) Bgcolour

(C) Title

(D) Text

Answer – (D) Text

10. Which view is used to print multiple slides on a single page as thumbnails?

(A) Normal view

(B) Slide sorter view

(C) Handouts view

(D) Notes view

Answer – (C) Handouts view

11. Which toolbar contains commands for font style and size in OpenOffice Writer?

(A) Formatting toolbar

(C) Drawing toolbar

(B) Standard toolbar

(D) Properties toolbar

Answer – (A) Formatting toolbar

12. What is the function of the docking toolbars in OpenOffice Calc?

(A) To create new workbooks

(B) To display the current worksheet

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(C) To provide quick access to various tools and functions

(D) To save documents automatically

Answer – (C) To provide quick access to various tools and functions

13. Name the protocol that is the foundation of the Internet.

Answer – TCP (Transmission Control) /IP (Internet Protocol)

14. Fill in the blank :

The octal equivalent of (258)10 is _____.

Answer - $(258)_{10} = 402_8$

15. What will be the output produced by the below given program if the value of the variable x is 24?

```
#include<iostream.h>
int main() {
int x, y = 5;
cin >> x;
cout <<"Sum:"<<x + y<<endl;
cout <<"Difference:"<<x– y<<endl;
cout <<"Product:"<<x * y<<endl;
cout <<"Quotient:"<<x / y<<endl;
return 0;
}
```

Answer - Output (x = 24):

- Sum = 24 + 5 = 29
- Difference = 24 − 5 = 19
- Product = 24 × 5 = 120
- Quotient = 24 ÷ 5 = 4 (integer division)

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16. Fill in the blank :

The decimal equivalent of (BDF)16 is _____ .

Answer - 3039_{10}

17. Name the tag that is used to add items in an ordered list in HTML.

Answer -

18. What is the header file for the function log (x)?

Answer - math.h

19. What is the ASCII value of 'D'?

Answer - ASCII value of 'D' = 68

20. What is video conferencing?

Answer - Video conferencing is a technology that allows people at different locations to communicate face-to-face using audio and video over the Internet.

21. Consider the below given program. What output will be produced if the value for the variable grade is entered as 'B'?

```
#include<iostream.h>
void main()
char grade;
cin>>grade;
switch (grade) {
case 'A':
cout<<"Excellent";
case 'B':
cout<<"Good";
case 'C':
cout<<"Fair";
default:
```

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```
cout<<"Invalid";
}
```

Answer – Output : GoodFairInvalid (No break statements, so fall-through occurs)

22. What will be the output produced by the below given code?

```
#include<iostream.h>
void main()
{
int i, s = 1;
int i = 8, sum = 0;
while (i > 0);
{
sum +=i;
i = i– 2;
}
cout <<sum;
}
```

Answer – Output : 0 (because of semicolon after while loop)

23. What will be the output produced by the below given code?

```
#include<iostream.h>
void main()
{
struct Student {
int roll_no;
string name;
float marks;
int age;
};
Student s = {101, "Gabriel", 85.5,17};
cout <<"Age:"<<s.age;
```

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```
}
```

Answer - Output: Age:17

24. What is the output produced by below given program (assume all header files are included)?

```
#include<iostream.h>
void fun1(int); //Statement1
void main()
{
int a = 15;
fun1(a);
cout <<"a = "<<a;
}
void fun1(int& b)
{
b =b*b;
}
```

Answer - Output : a = 225

25. Fill in the blanks :

(a) A file is a collection of ____ related records.

(b) Files can be opened using the ____ function.

Answer - (a) logically

(b) open()

26. State whether the following statements are True or False :

(a) Pointers allow dynamic memory allocation in C++.

(b) Object pointers can be used to access both public and private members of an object.

Answer - (a) True

(b) False

27. Fill in the blanks :

(a) ____ refers to the position of the data with respect to the boundary of the cell.

(b) ____ means arranging data in ascending or descending order.

Answer - (a) Alignment

(b) Sorting

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SECTION B

28. What is a ring topology?

Answer - Ring topology is a network structure in which all computers are connected in a closed loop. Each device is connected to exactly two other devices. Data travels in one direction and passes through each node until it reaches its destination.

Or

What do you mean by hub?

Answer - A hub is a networking device used to connect multiple computers in a network. It receives data from one computer and broadcasts it to all other connected devices without filtering or checking the destination.

29. What do you mean by char data type?

Answer - Char data type in C++ is used to store a single character such as letters, numbers or symbols. It occupies one byte of memory and stores characters in the form of ASCII values.

Or

Define RDBMS.

Answer - RDBMS stands for Relational Database Management System. It stores data in the form of tables consisting of rows and columns. It allows users to create, update, retrieve and manage data using SQL commands.

30. Write SQL queries for the following based on the below given BRAND table :

BRAND			
BRAND_ID	BRAND_NAME	STOCK	TYPE
B001	SAMSUNG	1250	DOMESTIC
B002	LG	1400	COMMERCIAL
B003	GODREJ	980	DOMESTIC
B004	SAMSUNG	882	COMMERCIAL
B005	GODREJ	1001	DOMESTIC

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(a) Insert the record B006, GODREJ, 503, COMMERCIAL in table BRAND.

(b) Display the details of the DOMESTIC TYPE brands.

Answer -

(a) Insert the record B006, GODREJ, 503, COMMERCIAL :

INSERT INTO BRAND VALUES ('B006','GODREJ',503,'COMMERCIAL');

(b) Display the details of DOMESTIC type brands :

SELECT * FROM BRAND WHERE TYPE='DOMESTIC';

31. What do you mean by copying text in OpenOffice Writer?

Answer - Copying text in OpenOffice Writer means duplicating selected text and placing it at another location without deleting it from the original place. This can be done using Copy and Paste options or keyboard shortcuts.

32. How do <P> and <BR> tags differ in functionality?

Answer - <P> tag is used to create a new paragraph and automatically adds space before and after the text.
 tag inserts a single line break without adding extra space or starting a new paragraph.

33.
```
#include<iostream.h>
#include<string.h>
struct Employee {
char name[50]
float salary;
};
void main()
{
____ //statement1
____ //statement2
cout<<Emp1.name;
cout<<Emp1.salary;
```

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}

Complete the above code for the following :

Statement 1 : Create two objects Emp11 and Emp12 of type Employee.

Statement 2 : Input the value for the member salary of the Structure Variable Emp11.

Answer -

Employee **Emp11**, **Emp12;** // Statement 1

cin >> **Emp11.salary;** // Statement 2

34. Write SQL queries to create the below given BRAND table :

BRAND		
BRAND_ID	VARCHAR(6)	PRIMARY KEY
BRAND_NAME	VARCHAR(15)	
STOCK	INT(5)	
TYPE	VARCHAR(15)	

Answer - SQL queries :

CREATE TABLE BRAND (

BRAND_ID **VARCHAR(6)** PRIMARY KEY,

BRAND_NAME **VARCHAR(15)**,

STOCK **INT(5),**

TYPE **VARCHAR(15)**

);

Or

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Define candidate key with an example

Answer - A candidate key is an attribute or a combination of attributes that uniquely identifies each record in a database table. A table may have more than one candidate key. For example, in a STUDENT table, Roll_Number can uniquely identify every student record.

35. Define the following terms (any two) :

(a) .(dot) operator

(b) Member functions

(c) Constructor

(d) Members

Answer -

(a) Dot (.) operator : Dot operator is used to access the data members and member functions of a class or structure using its object. It helps in referring to specific variables or functions of an object.

(b) Member functions : Member functions are the functions defined inside a class. They are used to operate on the data members of the class and define the behavior of the objects.

(c) Constructor : A constructor is a special member function of a class that is automatically called when an object is created. It is mainly used to initialize the data members of the class.

(d) Members : Members are the variables and functions declared inside a class or structure. They represent the properties and behaviors of an object.

36. Write an HTML code to create a webpage with—

(a) a heading "Computer Science Exam" of size 6;

(b) "Today is my computer science exam, hope it will go easy and I will get good marks" to be displayed in bold;

(c) the background colour of the webpage to be in green.

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Answer -

```
<html>
<body bgcolor="green">
<h6>Computer Science Exam</h6>
<b>Today is my computer science exam, hope it will go easy and I will get good marks</b>
</body>
</html>
```

37. Define the following terms (any three) :

(a) Relation

(b) Attribute

(c) Update command

(d) MySQL

(e) DCL

Answer -

(a) Relation : Relation is a table in a relational database. It consists of rows and columns, where each row represents a record and each column represents an attribute. Data in a relation is stored in an organized tabular form.

(b) Attribute : An attribute is a column in a database table. It represents a property or characteristic of an entity. For example, Roll_Number, Name and Marks are attributes of a STUDENT table.

(c) Update command : Update command is an SQL command used to modify existing records in a database table. It is generally used with a WHERE condition to change specific records.

(d) MySQL : MySQL is an open-source Relational Database Management System (RDBMS). It is used to store, manage and retrieve data from databases using SQL commands efficiently.

(e) DCL : DCL stands for Data Control Language. It is used to control access to data in a database. Commands like GRANT and REVOKE are examples of DCL commands.

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38. Answer the questions from (a) to (d) based on the below given code (assume all header files are included) :

```
class Employee {
int EmpID;
char EmpName[30];
float Salary;
protected:
void CalculateBonus();
public:
Employee();
void EnterDetails();
void ShowDetails();
};
class Department {
long DeptID;
char DeptName[30];
protected:
char Manager[30];
public:
Department();
void EnterDeptDetails();
void ShowDeptDetails();
};
class Project : public Employee, private Department {
long ProjectID;
char ProjectName[50];
char StartDate[10], EndDate[10];
public:
Project();
void StartProject();
void ShowProjectDetails();
};
```

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(a) Write the names of member functions, which are accessible from objects of class Project.

(b) Write the names of all the data members, which are used in the StartProject() function of class Project.

(c) Write the names of all the members, which are accessible from objects of class Department.

(d) Which type of inheritance is illustrated in the above C++ code?

Answer - (a) Member Employee()**functions accessible from objects of class Project :**

From Employee class (public) :

- EnterDetails()
- ShowDetails()

From Project class (public):

- Project()
- StartProject()
- ShowProjectDetails()

(b) Data members used in the StartProject() function of class Project:

- ProjectID
- ProjectName
- StartDate
- EndDate

(c) Members accessible from objects of class Department:

- Department()
- EnterDeptDetails()
- ShowDeptDetails()

(d) Multiple inheritance

Or

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Define hierarchical inheritance. Display the structure of hierarchical inheritance by taking an example or with the help of suitable syntax.

Answer - Hierarchical inheritance is a type of inheritance in object-oriented programming in which more than one derived (child) class inherits from a single base (parent) class. In this structure, the parent class contains common data members and member functions, which are shared by all the child classes. Each derived class can also have its own unique data members and functions.

Example / Syntax :

```
class A {
   // base class
};
class B : public A {
   // derived class
};
class C : public A {
   // derived class
};
```

39. 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.

Answer - Program using Selection Sort (Ascending Order) :

```
#include<iostream.h>
void main()
{
int n, a[20], i, j, min, temp;
cin >> n;
for(i = 0; i < n; i++)
cin >> a[i];
for(i = 0; i < n-1; i++)
{
min = i;
for(j = i+1; j < n; j++)
{
```

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```
if(a[j] < a[min])
min = j;
}
temp = a[i];
a[i] = a[min];
a[min] = temp;
}
for(i = 0; i < n; i++)
cout << a[i] << " ";
}
```

Or

Write a C++ program that accepts two numbers (X, Y) from the user and passes to a function, the function will perform $\sqrt{x^2 + y^2}$, i.e., square root of X* X*+Y* Y to the main program which will display the output to the user.

Answer - C++ Program to calculate $\sqrt{(x^2 + y^2)}$:

```
#include<iostream.h>
#include<math.h>
float calculate(int x, int y)
{
return sqrt(x*x + y*y);
}
void main()
{
int x, y;
cin >> x >> y;
cout << calculate(x, y);
}
```

This program accepts two numbers **X** and **Y** from the user, passes them to a function, calculates $\sqrt{(x^2 + y^2)}$, and displays the result in the main program.

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Thank you!

We hope you found this material helpful. We wish you the very best for your examination.

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