

PLUS TWO COMPUTER APPLICATION

PREVIOUS QUESTIONS AND ANSWERS(2016 - 2019)

1. Which among the following is an Insertion Operator 1
a) `>>` b) `<<` c) `>` d) `<`
Ans: `<<`
2. The input operator in C++ is _____ 1
Ans: `>>`
3. Identify the following C++ tokens. 2
(a) "welcome" (b) int (c) `>=` (d) `++`
Ans: (a) **String literal** (b) **Data type** (c) **Operator** (d) **Operator**
4. Which among the following is equivalent to the following statement series `b = a, a = a+1?` 1
Ans: **`b = a++`**
Here, `++` is postfix increment operator. First value of 'a' is assigned to the variable 'b' and then the value of 'a' is incremented by 1.
5. _____ operator is the arithmetic assignment operator? 1
a) `>>` b) `==` c) `+=` d) `=`
Ans: `+=`
6. Write a C++ program to enter 10 numbers into an array and find the second largest element. 5
- ```
#include<iostream>
#include<cstring>
using namespace std;
int main()
{
 int ar[10];
 int i, j, min, temp;
 cout<<"Enter 10 numbers ";
 for(i=0;i<10;i++)
 {
 cin>>ar[i];
 }

 for (i = 0; i < 9; i++) //CODE FOR SORTING ARRAY IN ASCENDING ORDER
 {
 min = i;
 for (j = i + 1; j < 10; j++)
 if (ar[j] < ar[min])
 min = j;
 temp = ar[i];
 ar[i] = ar[min];
 ar[min] = temp;
 }
 //AFTER SORTING LARGEST NUMBER WILL BE AT POSITION ar[9],
 //AND SECOND LARGEST NUMBER WILL BE AT POSITION ar[8]
 cout<<"\n Second Largest Number is "<<ar[8];
 return 0;
}
```



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7. Re write the following C++ using ‘switch’ statement.

```
cin>>pcode;
if(pcode == 'C')
 cout<<"Computer";
else if(pcode == 'M')
 cout<<"Mobile Phone";
else if(pcode == 'L')
 cout<<"Laptop";
else
 cout<<"Invalid Code";
```

**Ans:**

```
switch(pcode)
{
 case 'C':
 cout<<"Computer";
 break;
 case 'M':
 cout<<"Mobile Phone";
 break;
 case 'L':
 cout<<"Laptop";
 break;
 default:
 cout<<"Invalid Code";
}
```



8. Consider the following C++ code:

```
if (a==1)
 cout<<"Binary digit";
else if (a==0)
 cout<<"Binary digit";
else
 cout<<"Not a binary digit";
```

Rewrite the code using switch statement.

**Ans:**

```
switch(a)
{
 case 1:
 cout<<"Binary digit";
 break;
 case 0:
 cout<<"Binary digit";
 break;
 default:
 cout<<"Not a binary digit";
}
```

9. Rewrite the following C++ code using if ... else statement.

```
switch (choice)
{
 case 1:
 cout<<"One";
 break;
 case 0:
 cout<<"Zero";
 break;
 default:
 cout<< "End";
 break;
}
```



Ans:

```
if(choice == 1)
{
 cout<<"One";
}
else if(choice == 0)
{
 cout<<"Zero";
}
else
{
 cout<< "End";
}
```

10. Compare the selection statements 'if' and 'switch'.

| else If ladder                                                     | switch                                                             |
|--------------------------------------------------------------------|--------------------------------------------------------------------|
| It is a multiple branching statement                               | It is a multiple branching statement                               |
| Any types of operations can be checked                             | Only equality operation is checked                                 |
| When no condition is true, statements in 'else' block is executed. | When no match is found, statements in 'default' block is executed. |

11. What are the main components of a looping statement?

Ans: **Initialisation, Test Expression, Body of Loop, and Update Statement**

12. Explain about nested loops

A loop inside another loop is called nested loop.

Syntax for Nested For loop:

```
for (initialization; condition; increment)
{
 for (initialization; condition; increment)
 {
 // statement of inside loop
 }
 // statement of outer loop
}
```



Eg: 

```
for(int i = 1; i<=3; i++)
{
 for(int j = 1; j<=3; j++)
 {
 cout<<"i = "<<i<<", j = "<<j<<"\n";
 }
}
```

3

3

2

3

The output is :

```
i = 1, j = 1
i = 1, j = 2
i = 1, j = 3
i = 2, j = 1
i = 2, j = 2
i = 2, j = 3
i = 3, j = 1
i = 3, j = 2
i = 3, j = 3
```

13. Identify the four components of for loop-initialization, expression, test expression, body of the loop, update expression in the C++ code given below:

2

```
for (count = 1; count <= N; count++)
{
 sum = sum + count;
}
cout<<"sum="<<sum;
```

Ans:

```
count = 1; -- Loop-initialization
count <= N; -- Expression
sum = sum + count; -- Body of the loop
count++ -- Update expression (Update Statement)
```

14. List the type modifiers in C++.

2

**signed, unsigned, short, and long**

15. Rewrite the following code using for loop

2

```
int x = 1;
start:
 cout<<x;
 x = x + 5;
if(x<=50)
 goto start;
```



Ans:

```
for(int x=1; x<=50; x = x + 5)
{
 cout<<x;
}
```

16. Compare break and continue statements in C++.

3

OR

17. How do continue and break statement differ in a loop? Explain with an example.

3

OR

18. Explain break and continue statements with example.

3

Ans:

continue statement is used to skip remaining statements in a loop and continues with next iteration.  
break statement is used to exit from a loop.

Eg 1)-

```
for(int i=1; i<=5; i++)
{
 if(i==3)
 {
 break;
 }
 cout<<i;
}
```

Here, when the value of the variable “i” is 3, then the loop will terminate. The output is 1 2

Eg 2)-

```
for(int i=1; i<=5; i++)
{
 if(i==3)
 {
 continue;
 }
 cout<<i;
}
```

Here, when the value of the variable “i” is 3, then the remaining statements in the loop will not execute, then starts with next iteration ie , i=4. The output is 1 2 4 5

19. Write the output of the following C++ code. Justify your answer.

3

```
for(i = 1; i <= 5; ++i)
{
 cout<<"\t"<<i;
 if(i == 3)
 break;
}
```



Ans: 1      2

When the value of loop variable “i” reaches “3”, the loop will terminate or stop. **break** statement is used to exit from a loop.

20. Define Jump Statements. Explain about any two.

3

The statements used **to transfer program control from one place to another** are called jump statements.

- 1) **break** statement - is used to transfer the program control out of a loop.
- 2) **continue** statement - is used to skip remaining statements in a loop and transfer program control with next iteration.

21. A \_\_\_\_\_ statement in a loop forces the termination of that loop.

1

**break**

22. Write a C++ program to accept a string and count the number of words and vowels in that string

5

```
#include<iostream>
#include<cstdio>
#include<cstring>
using namespace std;
int main()
{
 char str[20];
 int word_count = 0;
 int vowels_count = 0;
 cout<<"Enter a string ";
 gets(str);
 for(int i = 0; i < strlen(str); i++)
 {
 if(str[i] == ' ')
 {
 word_count++;
 }
 if((str[i] == 'a') || (str[i] == 'A') || (str[i] == 'e') || (str[i] == 'E') || (str[i] == 'i') ||
 (str[i] == 'I') || (str[i] == 'o') || (str[i] == 'O') || (str[i] == 'u') || (str[i] == 'U'))
 {
 vowels_count++;
 }
 }
}
```

```

cout<<"No. Of Words are "<<word_count;
cout<<"No. Of Vowels are "<<vowels_count;
return 0;
}

```

23. Write a C++ program to accept N integer numbers and find the sum and average of even numbers. Use array to store numbers

5

```

#include<iostream>
using namespace std;
int main()
{
 int n, sum =0, even_count=0;
 float avg=0;
 int num[10];
 cout<<"How many numbers you want to input ?";
 cin>>n;
 cout<<"Enter "<<n<< " numbers ";
 for(int i=0; i<n; i++) // LOOP FOR INPUTTING N INTEGER NUMBERS
 {
 cin>>num[i];
 if(num[i] % 2 == 0) //CHECKING IF THE NUMBER IS EVEN
 {
 sum = sum + num[i]; // ADD THE EVEN NUMBER TO THE SUM
 even_count++; //INCREMENT THE EVEN NUMBER COUNT
 }
 }
 avg = sum / even_count;
 cout<<"The sum of even numbers is "<<sum;
 cout<<"The average of even numbers is "<<avg;
 return 0;
}

```

24. Write a C++ program to input 10 numbers to an integer array and find the sum of numbers which are exact multiples of 5.

3

```

#include<iostream>
using namespace std;
int main()
{
 int ar[10];
 sum = 0;
 cout<<"Enter 10 numbers ";
 for(int i = 0; i <=10; i++)
 {
 cin>>ar[i];
 if(ar[i] % 5 == 0)
 {
 sum = sum + ar[i];
 }
 }
 cout<<"Sum is "<<sum;
 return 0;
}

```

25. How memory is allocated for a float array?

2

The size of float data type is 4 bytes of memory. So, if a float has size 'N', then N\*4 bytes of memory are allocated to it.



26. How can we initialize an integer array? Give an example 2  
 We can initialize an integer array by using assignment operator and the values enclosed with in curly braces.  
 Eg: `int a[] = {10,20,30,40,50};`
27. Write C++ initialization statement to initialize an integer array name ‘MARK’ with values 70, 80, 85, 90. 1  
`int MARK[] = {70, 80, 85, 90};`
28. Write a c++ statement to declare an array with size 25 to accept the name of a student 1  
`char name[25];`
29. Accessing each element of an array at least once to perform any operation is known as \_\_\_\_\_ operation 1  
**Array traversal.**
30. Define array traversal with an example. 3  
 Visiting each elements in an array at least once is called **array traversal**.  
 Eg:  
 Consider an array storing marks of 5 students:  
`int mark[5];`  
 we can initialise the array with the following code;  
`mark[] = {30, 35, 25, 40, 20};`  
 Now, we can display the marks of five students by using array traversal as shown below;  
`for(int i = 0; i < 5; i++)`  
`{`  
 `cout<<mark[i];`  
`}`
- 
- The above loop visits each elements of an array and displays it.
31. (i) Define an Array. 1  
 Ans: **Array is a collection of same type of elements** stored in continuous memory locations.
- (ii) Initialize an integer array with 5 elements. 1  
 Ans: `int ar[] = {1, 2, 3, 4, 5};`
32. Write C++ statement to declare a character array of size 20. 1  
 Ans: `char ar[20];`  
 Write C++ statement to store the string "Welcome" in the same array  
 Ans: `char ar = "Welcome";`
33. Consider the following code  
`char s1[] = "program"`  
`char S2[] = "PROGRAM"`  
`int n;`  
`n = strcmpi(S1,S2);`
- What is the value of n 1  
 (a) n=0      (b) n=1      (c) n>0      (d) n<0  
 Ans:-  
 n = 0. Because **strcmpi** function returns 0 if two strings are equal, it will not consider upper or lower cases.(case insensitive)
34. Explain how allocation of string takes place in memory? 2  
 String is a combination of characters. Character array is used for storing in memory. ‘char’ data type needs one byte for storing a character. So if a string with ‘n’ characters, it needs ‘n’ bytes of memory.
35. Explain gets() and puts() functions 2  
`gets()` function is used for accepting a string with white spaces.  
`puts()` function is used to output a string
36. Explain any three stream functions for I/O operations. 3  
 1) `cin.get()` - It is used to input a string with white space. The delimiter is new line.(Enter Key)  
 2) `cin.getline()` - It is used to input a string with white space. It can also specify the delimiter character.  
 3) `cout.write()` - It is used to output a string
37. Explain any two stream functions for input operation with example. 2  
 1) `cin.get()` - It is used to input a string with white space. The delimiter is new line.(Enter Key)  
 Eg: - `cin.get(name, 25);`

2) **cin.getline()** - It is used to input a string with white space. It can also specify the delimiter character.  
Eg: - `cin.getline(name, 25, '\n');`

38. Write a program in C++ to accept a string with white space like "**good morning**" from the keyboard  
and display the same string. 3

```
#include<iostream>
#include<cstdio>
using namespace std;
int main()
{
 char str[20];
 cout<<"Enter a String ";
 gets(str);
 cout<<str;
 return 0;
}
```



39. Write a C++ program to convert all lowercase alphabets stored in a string to uppercase 5

```
#include<iostream>
#include<cstdio>
#include<cctype>
using namespace std;
int main()
{
 char str[20];
 cout<<"Enter a String ";
 gets(str);
 for(int i=0; str[i]!='\0'; i++)
 {
 str[i] = toupper(str[i]);
 }
 cout<<"\n New String is "<<str;
 return 0;
}
```

40. Explain any two built-in functions in C++ that are used for string manipulation. 2

**OR**

41. Explain three string functions in C++. 3

- 1) **strlen()** :- It is used to find the length of the string. String length means number of characters in the string.
- 2) **strcpy()** :- It is used to copy one string into another.  
Eg: **strcpy(s1,s2);** Here, the value of 's2' is copied into 's1'.
- 3) **strcmp()** :- It is used to compare two strings. It is a case sensitive function. It returns zero if the two strings are same.
- 4) **strcmpi()** :- It is used to compare two strings. It is a case insensitive function. It returns zero if the two strings are same.
- 5) **strcat()** :- It is used to append a string to another string.  
Eg:- **strcat(s1,s2);** Here, the value of 's2' is appended to the string 's1'.

42. Define built-in functions. Give two examples 2

**Built – in functions** are already defined functions.

Eg: **strlen()** and **strcpy()**

43. `char s1[10]="hellO", s2[10];`  
`strcpy (s2, s1);`  
`cout << s2;`  
What will be the output? 1

- a) hello              b) hel              c) hell              d) No Output

The output is **hello**

|                                                                                                                                                                                                                                                                                                                                                                                 |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 44. Identify the built in C++ function for the following cases                                                                                                                                                                                                                                                                                                                  | 5 |
| (i) To convert -25 to 25.<br>Ans: <b>abs()</b>                                                                                                                                                                                                                                                                                                                                  |   |
| (ii) Compare “computer” and “COMPUTER” ignoring cases.<br>Ans: <b>strcmpl()</b>                                                                                                                                                                                                                                                                                                 |   |
| (iii) To check the given character is digit or not.<br>Ans: <b>isdigit()</b>                                                                                                                                                                                                                                                                                                    |   |
| (iv) To convert the character ‘b’ to ‘B’<br>Ans: <b>toupper()</b>                                                                                                                                                                                                                                                                                                               |   |
| (v) To find the square root of 64 or a number.<br>Ans: <b>sqrt()</b>                                                                                                                                                                                                                                                                                                            |   |
| 45. Name the mathematical function which returns the absolute value of an integer number.                                                                                                                                                                                                                                                                                       | 1 |
| <b>abs()</b> function                                                                                                                                                                                                                                                                                                                                                           |   |
| 46. Write the name of built-in function of C++ to convert given character into its lower case.                                                                                                                                                                                                                                                                                  | 1 |
| <b>tolower()</b> function                                                                                                                                                                                                                                                                                                                                                       |   |
| 47. Consider the following C++ code:                                                                                                                                                                                                                                                                                                                                            | 5 |
| <pre>int main() {     char str [20];     cout&lt;&lt;"Enter a String";     cin&gt;&gt;str;     puts(str);     return 0; }</pre>                                                                                                                                                                                                                                                 |   |
| (a) Write the value of ‘str’ if the string "HELLO WORLD", is input to the code. Justify.<br>Ans: "HELLO". Because, <b>cin</b> uses space as a delimiter character. So it will not accept space character.                                                                                                                                                                       |   |
| (b) Write the amount of memory allocated for storing the array <b>str</b> . Give reason.<br>Ans: <b>20 bytes</b> . The size of char data type is <b>1</b> byte for storing a single character. Since the size of the array variable ‘str’ is <b>20</b> , it needs to store <b>20</b> characters. <b>1</b> byte for one character thus <b>20</b> bytes for <b>20</b> characters. |   |
| (c) Write an alternative we can use to input string in place of <b>cin</b> .<br>Ans: <b>gets() function</b>                                                                                                                                                                                                                                                                     |   |
| 48. Consider the following C++ code                                                                                                                                                                                                                                                                                                                                             | 3 |
| (a)                                                                                                                                                                                                                                                                                                                                                                             |   |
| <pre>char name[20];     cin&gt;&gt;name;     cout&lt;&lt;name;</pre>                                                                                                                                                                                                                                                                                                            |   |
| (b)                                                                                                                                                                                                                                                                                                                                                                             |   |
| <pre>char name[20];     gets (name);     cout&lt;&lt;name;</pre>                                                                                                                                                                                                                                                                                                                |   |
| Write the output in both cases if the string entered value is "NEW DELHI". Justify your answer.                                                                                                                                                                                                                                                                                 |   |
| Ans:                                                                                                                                                                                                                                                                                                                                                                            |   |
| a) The output is "NEW". Because <b>cin</b> will not accept space character as its input.                                                                                                                                                                                                                                                                                        |   |
| b) The output is "NEW DELHI". Because <b>gets()</b> function can accept space character as its input.                                                                                                                                                                                                                                                                           |   |
| 49. What are the differences in string handling using <b>cin</b> and <b>gets()</b> in C++ programs.                                                                                                                                                                                                                                                                             | 2 |
| The <b>cin</b> will not accept space character as its input.                                                                                                                                                                                                                                                                                                                    |   |
| The <b>gets()</b> function can accept space character as its input.                                                                                                                                                                                                                                                                                                             |   |
| 50. _____ character is stored at the end of the string.                                                                                                                                                                                                                                                                                                                         | 1 |
| Ans: '\0' ( <b>null character</b> )                                                                                                                                                                                                                                                                                                                                             |   |



51. Write a code to do the following:

3

(a) A function named **largest** accept two integer numbers and return the largest number

(b) Use this function to find the largest of two numbers

Ans:

a)

```
int largest (int n1, n2)
{
 if(n1>n2)
 return n1;
 else
 return n2;
}
```



b)

```
int a=10, b=20;
cout<<largest(a , b);
```

52. Consider the following function definition in C++;

3

```
void sum(int a, int b = 10, int c = 20)
{
 int sum = a+b+c;
 cout<<sum;
}
```

Write the output of the above code for the following function call;

(a) **sum(7, 2, 3);**

Ans: Here, the values **7**, **2**, and **3** are copied to the formal arguments '**a**', '**b**', and '**c**' respectively.  
So, the sum = **7 + 2 + 3**; ie is the **output is 12**.

(b) **sum(2, 3);**

Ans: Here, the values **2** and **3** are copied to the formal arguments '**a**' and '**b**' respectively. Since there is no value given to the third argument '**c**', it will take the default value '**20**'.  
So, the sum = **2 + 3 + 20**; ie is the **output is 25**.

(c) **sum (3);**

Ans: Here, the value **3** is copied to the formal argument '**a**'. Since there is no values given to the second and third argument '**b**' and '**c**', They will take the default values '**10**' and '**20**' respectively.  
So, the sum = **3 + 10 + 20**; ie is the **output is 33**.

53. "*Initialised formal arguments are called default arguments*". Using this concept, write the function prototype and the definition of a user defined function **sum()** which accepts two or three integer numbers and return their sum.

3

#### Function Prototype

```
int sum(int, int, int);
```

#### Function Definition

```
int sum(int n1, int n2, int n3 = 0)
{
 int s = 0;
 s = n1 + n2 + n3;
 return s;
}
```

Here, **n3** is an initialized formal argument with value zero.

54. Write the function prototype for the following function;

2

(i) A function **sum()** takes two integer arguments and return integer value.

Ans:

```
int sum(int, int);
```

(ii) A function print() has no arguments and no return value.

Ans:

**void print();**

55. Write a program using a function to interchange the value of two variables.(Use call by reference method for passing arguments) 3

```
#include<iostream>
using namespace std;
void swap(int &x, int &y) //IT IS A USER DEFINED FUNCTION FOR SWAP
{
 int t;
 t = x;
 x = y;
 y = t;
}
int main()
{
 int a,b;
 cout<<"Enter two numbers ";
 cin>>a>>b;
 cout<<"\n Before Swapping a = "<<a<< " b = "<<b;
 swap(a,b); //CALLING SWAP FUNCTION
 cout<<"\n After Swapping a = "<<a<< " b = "<<b;
 return 0;
}
```



56. compare call-by-value and call-by-reference methods for calling functions. 3

| Call by value method                                                                      | Call by reference method                                                              |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Variables, constants, expressions</b> can be used as <i>actual arguments</i> .         | <b>Only variables</b> can be used as <i>actual arguments</i> .                        |
| Values of actual arguments are <b>copied</b> to the formal arguments.                     | Memory address of actual arguments are <b>shared</b> with formal arguments            |
| <b>Changes</b> in the formal arguments are <b>not reflected</b> into the actual arguments | <b>Changes</b> in the formal arguments are <b>reflected</b> into the actual arguments |

57. Differentiate actual arguments and formal arguments in C++. 2

Arguments **used in function call** are called **actual arguments**.

Arguments **used in function definition** are called **formal arguments**.

58. Differentiate between local and global variables. 3

| Local variable                            | Global Variable                        |
|-------------------------------------------|----------------------------------------|
| Declared inside a function                | Declared outside all functions         |
| Can access only with in the function      | Any function in the program can access |
| Exists only when the function is executed | Exists when the program is executed    |

59. The process of breaking large program into smaller sub programs is called. 1

Ans: **Modularisation**

60. 1) Define Modular Programming. 1

Ans: The process of breaking large program into smaller sub programs and solving each smaller programs separately is called **Modular programming**.

2) Explain the merits of Modular programming.

Ans:

- 1) Reduces the size of program.
- 2) Reduces programming complexity.
- 3) Less Chances of errors
- 4) Re usability



61. The port number of http is \_\_\_\_\_

**80**

1

62. The port no. for HTTP protocol is \_\_\_\_\_.

**80**

1

63. Write the port number for the following web services

- (i) Simple Mail Transfer protocol

Ans: **25**

2

- (ii) HTTP secure (HTTPS)

Ans: **443**

64. Compare static and dynamic web pages

**OR**

65. Compare static webpage and dynamic webpage.

**OR**

66. Differentiate static and dynamic web page.

3

| <b>Static web page</b>      | <b>Dynamic web page</b>                        |
|-----------------------------|------------------------------------------------|
| Content and Layout is fixed | Content and Layout Changes                     |
| Runs on Web browser         | Runs on Web server and displays on Web browser |
| Database never used         | Use Databases                                  |
| Easy to develop             | Requires Programming skills                    |

67. Differentiate client-side script and server-side script.

**OR**

68. Compare client-side scripting and server-side scripting.

**OR**

69. Compare client side scripting and server side scripting languages

| <b>Client side scripting</b>                     | <b>Server side scripting</b>              |
|--------------------------------------------------|-------------------------------------------|
| Runs on Web browser                              | Runs on Web server                        |
| Used for form validation and simple calculations | Mainly used for interacting with Database |
| User can block client side script                | User can not block server side script     |
| Depends on web browser's version                 | Does not depend on web browser's version  |

70. Write HTML tag to set the colour of hyperlink to red

**<body link = "red">**

71. Every web browsers has default colours to display text and hyperlink. How can we change these default colours?

2

We can use the attributes **text** and **link** of body tag to change the default colours of text and hyperlink.

**<BODY text="green" link="yellow">**

72. A web page is created to display the result of Engineering entrance examination.

2

a) What type of webpage it is?

Dynamic webpage, because the content (result) changes for each candidate

b) Mention any two features of it

1) Content and layout changes dynamically

2) Uses database

73. Write HTML tags used to insert comments in HTML web pages

2

Ans:

The comments in HTML are enclosed with in <!-- and --> tags

74. Write any two methods to include scripts in HTML document.

2

**1) Inside Head section**

We can include the scripts with in <HEAD> and </HEAD> tags.

**2) Inside Body section**

We can include the scripts with in <BODY> and </BODY> tags.

75. Consider the following HTML

1

D. LaPtoP

E. DesktoP

F. PRINTER

What will be the value of START and TYPE attribute of <OL> tag

(a) START="D" TYPE="A">

**(b) START="4" TYPE="A"> --- This is the answer**

(c) START="4" TYPE="I">

(d) START="D" TYPE="I">

76. Explain the HTML tag <table> and its attributes.

3

<table> tag is used to create a table in HTML page.

Attributes of <table> tag are;

1) **border** – It used to show a border around the table.

2) **bgcolor** – It Is used to set background colour of the table.

3) **background** – It is used to set background image of the table.

4) **cellspacing** – It is used to specify the amount of space between the cells.

5) **cellpadding** – It is used to specify the amount of space between the cell border and its content.

77. Differentiate Cellspacing and Cellpadding.

2

**Cellspacing** specifies the amount *space between each cells* in a table.

**Cellpadding** specifies the amount *space between cell border and cell content*.

78. Develop a webpage to display the following login screen

3

|                                      |                          |
|--------------------------------------|--------------------------|
| Application No                       | <input type="text"/>     |
| Password                             | <input type="password"/> |
| <input type="button" value="Login"/> |                          |



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Write JavaScript to do the following validation :

(a) The application number should be in the range 10000 to 99999.

(b) The password should contain at least 8 characters

<HTML>

<HEAD>

<TITLE>My Form </TITLE>

</HEAD>

<BODY>

<FORM name = "form1">

Application No <INPUT type="text" MIN ="10000" MAX ="99999"><BR>

Password <INPUT type="password" MINLENGTH="8"><BR>

<INPUT type ="submit" value ="Login">

</FORM>

</BODY>

</HTML>

79. Write the HTML code to display the following webpage

```
<HTML>
 <HEAD>
 <TITLE>My Form </TITLE>
 </HEAD>
 <BODY>
 <FORM name = "form1">
 <FIELDSET>
 Username <INPUT type="text">

 Password <INPUT type="password">

 <INPUT type ="submit" value ="Submit">
 <INPUT type ="reset" value ="Reset">
 </FIELDSET>
 </FORM>
 </BODY>
</HTML>
```



80. Write the complete HTML tag that links the text “PSC” to the website “[www.keralapsc.org](http://www.keralapsc.org)”.

[PSC](http://www.keralapsc.org)

81. Explain nesting of frameset with an example.

A frameset used with in another frameset is called nesting of frameset.

Eg:

```
<FRAMESET rows="50%,50%">
 <FRAMESET cols="50%,50%">
 <FRAME src="a.html">
 <FRAME src="b.html">
 </FRAMESET>
 <FRAME src="c.html">
</FRAMESET>
```

The output will be like

a.html	b.html
c.html	

82. What is the use of frame tag in HTML? what is its limitation?

<frame> is used to represent a frame in a frameset.

Its hard to navigate through pages in *frames*.

83. Write the HTML code to generate the following table;

3

Roll No	Name	Class
100	Vishnu	C1
101	Anupama	C2
102	Biju	A1

```
<TABLE border = "1">
<TR>
 <TH>Roll No</TH> <TH>Name</TH> <TH>Class</TH>
</TR>
<TR>
 <TD>100</TD> <TD>Vishnu</TD> <TD>C1</TD>
</TR>
<TR>
 <TD>101</TD> <TD>Anupama</TD> <TD>C2</TD>
</TR>
<TR>
 <TD>102</TD> <TD>Biju</TD> <TD>A1</TD>
</TR>
</TABLE>
```

84. Write the HTML code to create the following table.

2

No. of Students	
Science	55
Commerce	60
Humanities	58



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```
<TABLE border = "1">
<TR align="center">
 <TH colspan = "2"> No.of Students </TH>
</TR>
<TR>
 <TD>Science</TD> <TD align="center">55</TD>
</TR>
<TR>
 <TD>Commerce</TD> <TD align="center">60</TD>
</TR>
<TR>
 <TD>Humanities</TD> <TD align="center">58</TD>
</TR>
</TABLE>
```

85. Write an HTML code to create the following table:

3

PAY ROLL		
EMPNO	NAME	SALARY
101	ABIN	15,000
102	SINI	25,000
103	ANU	20,000

PAY ROLL		
	EMPNO	NAME
	SALARY	
	101	ABIN
		15,000
	102	SINI
		25,000
	103	ANU
		20,000

86. Write an HTML code which inputs the name, rollno and date of birth of a student. Date of birth contains month, day and year. Month should be selected from a drop down list.

3

<HTML>


  
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<HEAD>

<TITLE>MY FORM</TITLE>

</HEAD>

<BODY>

Name <INPUT name="name"><BR>

Roll. No <INPUT name="rollno"><BR>

Date of Birth

Month <SELECT name="month">

- <OPTION value="1">Jan</OPTION>
- <OPTION value="2">Feb</OPTION>
- <OPTION value="3">Mar</OPTION>
- <OPTION value="4">Apr</OPTION>
- <OPTION value="5">May</OPTION>
- <OPTION value="6">Jun</OPTION>
- <OPTION value="7">Jul</OPTION>
- <OPTION value="8">Aug</OPTION>
- <OPTION value="9">Sep</OPTION>
- <OPTION value="10">Oct</OPTION>
- <OPTION value="11">Nov</OPTION>
- <OPTION value="12">Dec</OPTION>

</SELECT>

Day <INPUT type="text" name="day">

Year <INPUT type="text" name="year">

</FORM>

</BODY>

</HTML>

87. \_\_\_\_\_ tag in HTML is used to create a drop-down list. 1

- a) SELECT      b) OPTION    c) INPUT    d) LIST

Ans: **SELECT**

88. Pick out the odd one 1

- (a) BODY    (b) HTML    (c) HEAD    (d) ALIGN

Ans: **ALIGN** is an attribute, all others are tags

89. Name the following tags 1

- (a) To include a button in HTML

Ans: **<button> tag**

- (b) To partition the browser window

**<frameset> or <div> tags**

90. What is the use of <FRAMESET> Tag in HTML? List any two attributes of this tag 2

<FRAMESET> tag is used to divide the browser window into different frames.

Its attributes are;

1) **rows** - Specifies the width of each frame in pixels.

2) **cols** - Specifies the height of each frame in pixels.

91. Name the intellectual property represented by the symbols ®, © 1

® - Used for **Registered** intellectual property

© - Used for **Copyright** intellectual property

92. Write the use of the following in HTML 2

a) <A href="http://www.dhsekerala.gov.in">DHSE</A>

It creates a link shows "DHSE" to the website "http://www.dhsekerala.gov.in"

b) <EMBED src ="song1.mp3"></EMBED>

It includes an audio file "song1.mp3" into the webpage

93. Name the tag and attribute needed to create the following lists in HTML 2

(a)

1. RAM
2. ROM
3. HARD DISK

(b)

<input type="checkbox"/> REGISTERS
<input type="checkbox"/> CACHE
<input type="checkbox"/> RAM

Ans:

a) <OL type="1">

b) <UL type="square">



94. Write the output of the following HTML code; 2

<OL type = "I" Start="10">

    <LI> keyboard </LI>

    <LI> mouse</LI>

    <LI> light pen </LI>

</OL>

The output is;

X. keyboard

XI. mouse

XII. light pen

95. Explain any two types of lists in HTML. 2

Ans:

1) **Ordered List**

In this list, items are displayed in a numerical or alphabetical order.

The tags used for ordered list are <OL> and <LI>

Attributes of <OL> tag are **type** and **start**.

2) **Un ordered List**

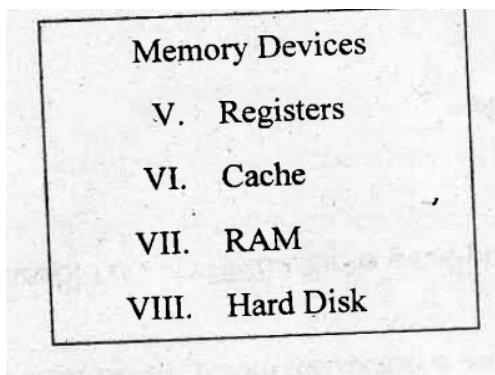
In this list, items are displayed with a special graphical symbol such as *circle*, *square*, etc.

The tags used for un ordered list are <UL> and <LI>

Attribute of <UL> tag is **type**

96. Write HTML code to display the following list

3



Ans:

Memory Devices  
<OL type="I" start ="5">  
    <LI> Registers </LI>  
    <LI> Cache </LI>  
    <LI> RAM </LI>  
    <LI> Hard Disk </LI>  
</OL>



97. Write the HTML code to display the following using list tag

2

- (i) Biology Science
- (ii) Commerce
- (iii) Humanities

<OL type="i">  
    <LI>Biology Science</LI>  
    <LI>Commerce</LI>  
    <LI>Humanities</LI>  
</OL>

98. Describe any four values of **type** attributes of the <INPUT> Tag in HTML.

2

- 1) **text** - Is used to create a textbox.
- 2) **password** - Is used to create a password box.
- 3) **radio** - Is used to create a radio button
- 4) **checkbox** - Is used to create a checkbox

99. Consider the following HTML code and answer the following;

<EM> COMPUTER </EM> <BR>  
<STRONG> APPLICATION </STRONG> <BR>  
<HR>

(a) Name the tag used to make the text as italics and bold in the above code.

(l)

Ans: <EM> and < STRONG>

(b) What is the purpose of <HR> tag? Explain its any two attributes.

(2)

Ans: <HR> tag is used to draw a horizontal line in the HTML page.

Its attributes are;

- 1) **width** – It specifies the width of horizontal line.
- 2) **height** – It specifies the thickness(height) of horizontal line.

(c) Write the HTML statement to scroll the text given in <EM> from top to bottom.

(2)

Ans:

<MARQUEE direction = “down”> COMPUTER </MARQUEE>

100. Name any two attributes of the following tags.

3

a) <HTML>

Ans: 1) *dir*

2) *lang*

b) <MARQUEE>

Ans: 1) *direction*

2) *scrolldelay*

c) <FONT>

Ans: 1) size

2) color

101. Name the three essential tags for creating a table in HTML. Write the purpose of each tag.

3

1) <TABLE>

It is used for creating a table in HTML.

2) <TR>

It is used for creating table row in HTML.

3) <TD>

It is used for creating a table column or cell in HTML.

102. Which is the tag used to create a line break in a HTML page?

1

<BR> tag

103. What is the use of reserved characters for HTML entities?

1

Ans: HTML entities are used for representing reserved characters in HTML.

List any four reserved characters and its use.

2

Ans: &nbsp; for representing **space** character.

&amp; for representing **ampersand** character.

&lt; for representing '<' (**less than**) symbol.

&gt; for representing '>' (**greater than**) symbol.

104. Write the name of tag used to group related data in an HTML

1

<FIELDSET> tag

105. Write HTML code to display the following:

2

(a)  $(a+b)^2 = a^2 + 2ab + b^2$

Ans:  $(a+b)^2 = a^2 + 2ab + b^2$

(b) © Department of Education

1

Ans: &copy; Department of Education

106. Name the tag and its attribute used to include a script in a web page.

1

<SCRIPT> tag and src attribute

Eg: <SCRIPT src="test.js"></SCRIPT>

107. Name any two server-side scripting language.

1

ASP – Active Server Pages

JSP – Java Server Pages

PHP – Php Hypertext Preprocessor

108. In JavaScript

5

(a) Explain any three types of operators used.

Ans:

### 1) Arithmetic Operators

These are used for performing arithmetic operations. They are:

a) + for addition

b) - for subtraction

c) / for division

d) \* for multiplication

e) % for modulus division

### 2) Relational Operators

These are used for comparing two or more variables, constants. They are;

a) < - Less than

b) > - Greater than

c) <= - Less than or equal

d) >= - Greater than or equal

e) == - Equality

f) != - Not Equal

### 3) Logical Operators

These are used for combining two or more relational expressions. They are;

a) && - for Logical AND operation

b) || - for Logical OR operation

c) ! - for Logical NOT operation



(b) Describe any two data types used.

Ans:

1) **Number**

This data type represents **all type of numbers** such as integer or float, positive or negative.

2) **String**

This data type represents all types of **string data**. That is it can store single or multiple characters or any characters enclosed with in single or double quotes.

3) **Boolean**

This data type represents either **true or false value only**.

109. Classify the following values in JavaScript into suitable data type;

"Hello", False , 125.0, 148, "True", True

Ans:

**125.0** and **148** are of data type "**Number**". It can store all types of numbers.

**"Hello"** and **"True"** are of data type "**String**". Anything enclosed with in double quotes is string.

**False** and **True** are of data type "**Boolean**". It stores either true or false only.

110. What is an external javascript file?. Write the advantages of using an external javascript file.

3

The files with 'js' extension is called external javascript file.

Write at one place and use at multiple places

Easy to modify

Easy to find and correct errors.



111. Develop a web page to display the following screen;

Enter Name

**SHOW**

The user can enter name in the textbox. On clicking the SHOW button, the name entered in the textbox should be changed into uppercase. Include javascript code in the HTML for doing this.

3

<HTML>

<HEAD>

<TITLE>My Form</TITLE>

<SCRIPT language = "javascript">

function upper()

{

    var str = document.form1.name.value;

    str = str.toUpperCase();

    document.form1.name.value = str;

}

</SCRIPT>

</HEAD>

<BODY>

<FORM name="form1">

    Enter Name <INPUT type = "text" name = "name"><BR>

    <INPUT type = "button" onclick = "upper()">

</FORM>

</BODY>

</HTML>



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112. Rewrite the following C++ code in JavaScript.

3

void length ()

{

    char str1:

    str1 = "WELCOME";

    cout<<str1;

}

Ans:

```
function length()
{
 var str1;
 str1 = "WELCOME";
 document.write(str1);
}
```

113. Consider the following JavaScript code:

```
function Print()
{
 var i;
 for (i=1; i<=10; ++i)
 {
 document.write(i);
 document.write("
");
 }
}
```

(i) Write the output of the above code.

Ans: 1

2

3

4

5

6

7

8

9

10



(ii) Rewrite the above code using while loop.

Ans:

```
function Print()
{
 var i;
 i=1;
 while(i<=10)
 {
 document.write(i);
 document.write("
");
 ++i;
 }
}
```

(iii) Modify the above code to find the sum of first 10 counting numbers.

Ans:

```
function Print()
{
 var i, sum = 0;
 for (i=1; i<=10; ++i)
 {
 sum = sum + i;
 }
 document.write(sum);
}
```

114. Name the keyword used to declare variable in javascript.

Ans: **var**

1

2

2

1

115. What is the difference between `isNaN()` and `Number()` functions in  
**`isNaN()`** function is used to check ***whether the given value is not a number.***  
**`Number()`** function is used ***to convert the given string to number.*** 2
116. \_\_\_\_\_ is a JavaScript function used to include a text in the body section of a webpage. 1  
**`document.write()`** function
117. Write the built-in javascript functions used for the following situation. 3  
a) Display warning message in the screen.  
Ans: **`alert()`**  
b) Character at a particular position  
**`charAt()`**  
c) Convert uppercase to lowercase  
**`toLowerCase()`**
118. Write any three built-in functions in JavaScript and explain its use. 3  
1) **`alert()`**  
It is used to display warning message in the screen.  
2) **`charAt()`**  
It is used to find the character at a particular position.  
3) **`toLowerCase()`**  
It is used to convert uppercase string to lowercase.
119. DNS stands for \_\_\_\_\_? 1  
Domain Name System
120. Suppose you are browsing the website “[www.keralapsc.gov.in](http://www.keralapsc.gov.in)”. Explain how DNS resolves the IP address. 3  
Ans:  
1) DNS **checks the IP address** of the domain name **in the browser's memory**. If found, then resolved.  
2) If the IP address is not found, then DNS will **checks the IP address** of the domain name **in the operating system's memory**. If found, then resolved.  
3) If the IP address is not found, then DNS will **checks the IP address** of the domain name **in the ISP (Internet Service Provider) 's local domain servers**. If found, then resolved.  
4) If the IP address is not found, then DNS will **checks the IP address** of the domain name **in the top level domain servers**. If found, then resolved.
121. Define Web Hosting 1  
Storing web site files into the web server is called **web hosting**.
122. Briefly explain different types of web hosting. 3  
1) **Shared Hosting.**  
Server is shared by multiple customers. Bandwidth of server is shared by multiple users.  
It is less expensive.  
2) **Dedicated Hosting.**  
A server is dedicated to only one customer. It provides Very High bandwidth and speed.  
It is highly expensive.  
3) **Virtual Private Server.**  
It is actually a shared server but users feel that they are using a dedicated server.  
The server is virtually partitioned into multiple servers by using the ***virtualisation software***.
123. Differentiate between shared and dedicated hosting 2
- | <b>Shared Hosting</b>                                 | <b>Dedicated Hosting</b>       |
|-------------------------------------------------------|--------------------------------|
| Server is shared by multiple customers                | Dedicated to only one customer |
| Bandwidth is shared by multiple users (Average speed) | Very High bandwidth and speed  |
| Low Cost                                              | Expensive                      |
124. Write short note on virtual private server. 2  
It is actually a shared server but users feel that they are using a dedicated server. The server is virtually partitioned into multiple servers by using the ***virtualisation software***.
125. Write short note on free hosting. 2  
Free hosting allows us web hosting **free of cost**. But it has limited facilities ie, **less bandwidth, less memory**, etc. The free hosting companies will insert advertisements into our websites to make revenue.



126. Write the merits and demerits of free web hosting. 3

Free hosting allows us web hosting **free of cost**. But it has limited facilities ie, **less bandwidth, less memory**, etc. We will only get **sub domain of free hosting company**.

The free hosting companies will insert advertisements into our websites to make revenue.

127. Write the type of web hosting that is most suitable 2

(a) For hosting a school website with database

Ans: Shared Hosting

(b) For hosting a website for a firm

Ans: Dedicated Hosting

(c) For creating a blog to share pictures and posts

Ans: Virtual Private Server Hosting

(d) For creating a low cost personal website with unique domain name

Ans: Shared Hosting

128. Write short note on Responsive Web design. 2

**OR**

129. Explain responsive web design. 3

**Responsive web design** is a way of designing web pages that will automatically responds to the different sized devices such as desktops, laptops, tablets, mobile phones, etc. It uses HTML and CSS(Cascading Style Sheet) to automatically **resize, hide, shrink, or enlarge**, a website, to make it look good on all devices.

130. What type of hosting package is suitable for a multinational online shopping site? 2

Mention any two advantages of the package

Ans: Dedicated Hosting is required because of huge number of users and security.

Advantages of Dedicated hosting are;

1) High Bandwidth

2) High Security

131. What is the need of registering a domain name for a website? Explain the procedure domain name registration 3

**OR**

Amrita wanted to get the name “[www.smartproducts.com](http://www.smartproducts.com)” for her newly designed website. How its possible? 3

**Ans:** Domain name is used to identify a website uniquely over the internet. Once we registered a domain name for our website, this domain name could not use by other websites.

First we have to select a unique domain name for our website.

Check if the selected domain name is available.

If available, then purchase the domain from domain name service providers.

132. \_\_\_\_\_ is a server that acts as a bridge between merchant server and bank server? 1

**Payment Gateway**

133. Identify the odd one : 1

(a) WordPress      (b) FileZilla      (c) Joomla      (d) Drupal

Ans: **Filezilla**. Others are examples of CMS

134. What is CMS? Give two examples. 2

**OR**

135. What is Content Management System?. Write any two popular CMS software. 3

A CMS(Content Management System) is a web application which allows creating, publishing, editing and modifying web sites. Non-technical people can easily create and manage web sites by using CMS.

Eg:

**Joomla, Drupal and WordPress**

136. Ajith created a website using the software “Joomla”. What is the peculiarities of this software and write any four advantages of using this software. 3

Ans: Joomla is a CMS(Content Management System). A CMS is a web application which allows creating, publishing, editing and modifying web sites.

Advantages of Content Management Systems are;

1. Non-technical people can easily create and manage web sites.

2. It is easy to maintain CMS based sites.



3. Design changes are simple.		
4. Support from a large CMS Community		
137. Explain advantages of DBMS over conventional file system		5
OR		
138. Explain any three advantages of DBMS.		3
1) <b>Controlling Data Redundancy</b>		
Redundancy means duplication of data. DBMS Controls data redundancy by storing data in a central place.		
2) <b>Data consistency</b>		
Data redundancy leads to inconsistency. An inconsistent database provides incorrect data. Inconsistency can be controlled by controlling data redundancy.		
3) <b>Efficient data access</b>		
DBMS provides an efficient access to database.	 HSSLIVE.IN	
4) <b>Data integrity</b>		
Data integrity refers to <b>correctness of data</b> stored in the database. Data integrity is maintained through implementing <i>rules</i> and <i>procedures</i> .		
5) <b>Data Security</b>		
Data security refers to <b>protecting data against accidental lose or attack</b> . Data security can be done by using <i>passwords</i> .		
6) <b>Sharing of data</b>		
The data stored in the database can be <b>shared among multiple programs and users</b> .		
7) <b>Enforces standard</b>		
The database enforces standard for storing, retrieving data.		
8) <b>Recovery</b>		
DBMS provides <b>facilities for data backup and recovery</b> from hardware failure.		
139. In DBMS		
(a) Explain classification of database users.		2
Ans:		
1) <b>Database Administrator(DBA)</b>	 HSSLIVE.IN	
A database administrator is a person who has <b>central control over the database</b> .		
2) <b>Application Programmer</b>		
Application programmers are computer professionals who <b>interacts with the database through application programs</b> .		
3) <b>Sophisticated Users</b>		
Sophisticated users <b>interact with database through queries</b> . They include engineers, analyst etc.		
4) <b>Naive Users</b>		
They <b>interact with database by using previously written application programs</b> . They are not aware of details of DBMS.		
(b) Define the terms – Cardinality, Schema and Alternate key.		3
Ans:		
Cardinality - <b>Number of rows in a relation</b> is called Cardinality.		
Schema - The <b>overall design(Description) of a database</b> is called schema.		
Alternate Key - The <b>candidate keys other than primary key</b> are called alternate key.		
140. Define the following terms		3
(i) Cardinality		
Ans: Cardinality is the <b>number of rows in a relation</b> .		
(ii) Schema		
Ans: The <b>overall design(Description) of a database</b> is called schema.		
(iii) Tuple		
Ans: <b>Rows in a relation</b> is called tuple.		
141. In RDBMS, a relation contains 10 rows and 5 columns. What is the degree of the relation?		1
A degree of a relation is the number of columns in a relation. Here the degree is 5		
142. Define the following		2
(a) Field		
Ans: A <b>Field</b> is a smallest unit of data.		

(b) Record

Ans: A **record** is a collection of related fields.

143. Explain different levels of data abstractions in DBMS

3

### 1) Physical Level

It is the lowest level of abstraction. This level specifies **how the data are stored** in the memory.

### 2) Logical Level

It is the intermediate level of abstraction. This level specifies **what data are stored** in the memory.

### 3) View Level

It is the top level of data abstraction. This level gives only the view of data.

144. \_\_\_\_\_ level describes only a part of a database.

1

- (a) View    (b) Physical    (c) Logical    (d) None of these

Ans: View Level



145. Define the term Data independence. Explain different levels of data independence.

3

**Data independence** is the ability to modify the schema (structure) of one level without affecting the schema at its next higher level.

There are two levels of data independence;

### 1) Physical level Independence

It is the ability to modify the schema in physical level without affecting the schema at logical level.

### 2) Logical level Independence

It is the ability to modify the schema in logical level without affecting the schema at view level.

146. Explain any three fundamental operations in relational algebra.

3

**OR**

147. Explain any three operators used in Relational algebra.

3

### 1) Union Operation

The operator used for union operation is ‘U’.

It returns all tuples in two relations. It eliminates duplicate tuples.

### 2) Intersection Operation

The operator used for intersection operation is ‘ $\cap$ ’.

It reruns only the tuples that are present in both relations.



### 3) Set Difference Operation

The operation used for set difference operation is ‘-’.

It returns the tuples that are present in first relation but not in second relation.

148. \_\_\_\_\_ is the symbol used for selection operation in relational algebra.

1

- a)  $\sigma$     b)  $\pi$     c) U    d)  $\cap$

Ans:  $\sigma$  (sigma symbol)

149. Write short note on UNION operation in Relational algebra.

2

### Union Operation

The operator used for union operation is ‘U’.

It returns all tuples in two relations. It eliminates duplicate tuples.

150. What is relational algebra? Explain any three relational algebra operation

5

Operations performed on relation is called relational algebra.

Some relational algebra operations are:

### 1) Union Operation

The operator used for union operation is ‘U’.

It returns all tuples in two relations. It eliminates duplicate tuples.

### 2) Intersection Operation

The operator used for intersection operation is ‘ $\cap$ ’.

It reruns only the tuples that are present in both relations.

### 3) Set Difference Operation

The operation used for set difference operation is ‘-’.

It returns the tuples that are present in first relation but not in second relation.

151. First table containing 4 rows and 3 columns, second table contains 5 rows and 2 columns. ,columns, then the Cartesian product table contains \_\_\_ rows and \_\_\_ columns? 2

Ans:  $4 * 5 = 20$  rows and  $3 + 2 = 5$  columns

152. Is it possible to combine SELECT and PROJECT operations of a relational algebra into a single statement? Explain with example. 2

Yes, We can combine SELECT and PROJECT operations of a relational algebra into a single statement.  
Eg:-

$$\pi_{\text{name}, \text{mark}} (\sigma_{\text{mark} > 30}(\text{STUDENT}))$$

Here, we combined SELECT and PROJECT operations of a relational algebra into a single statement. This statement will give the name and mark of students who scored below 30 marks.

153. Explain primary key constraint with an example. 2

Primary key is a combination of one or more column used to uniquely identify each rows in a table.  
There can be only one primary key in a table.

Eg: “**rollno**” column in a table “**STUDENT**” can be set as a primary key, because rollno is unique for each students.

154. What is key? Explain any two keys in a relational database management system. 3

A key is an attribute or collection of attributes that uniquely identifies each Tuple in a table.

### 1) Primary key

Primary key is a combination of one or more column used **to uniquely identify each rows in a table**.

### 2) Alternate Key

The **candidate keys other than primary key** are called alternate key.

155. Define primary key and alternate key. 2

Primary key is a combination of one or more column used **to uniquely identify each rows in a table**.

The **candidate keys other than primary key** are called alternate key.

156. A candidate key that is not a primary key is called \_\_\_\_\_ key. 1

### Alternate key

157. \_\_\_\_\_ keyword is used in SELECT query to eliminate duplicate values in a column.

- (a) UNIQUE      (b) DISTINCT      (c) NOT NULL      (d) PRIMARY

Ans: **DISTINCT**

158. Define constraints. Explain any four column constraints. 5

A constraint is a set of rules or conditions applied to a column or group of columns.

### 1) NOT NULL:-

This constraint will not allow **NULL**(empty) values for a column.

### 2) UNIQUE:-

This constraint will not allow two rows have the same value for a specified column.

### 3) DEFAULT:-

This constraint is used to specify a default value for a column.

### 4) AUTO\_INCREMENT:-

It automatically assigns a series of number and insert it to column. The default starting value is 1. The auto increment column must be defined as primary key of the table. Only one auto\_increment column is allowed in a table.

159. Write the names of any two column constraints and their usage. 2

### 1) NOT NULL:-

This constraint will not allow **NULL**(empty) values for a column.

### 2) UNIQUE:-

This constraint will not allow two rows have the same value for a specified column.

### 3) DEFAULT:-

This constraint is used to specify a default value for a column.

### 4) AUTO\_INCREMENT:-

It automatically assigns a series of number and insert it to column. The default starting value is 1. The auto increment column must be defined as primary key of the table. Only one auto\_increment column is allowed in a table.

160. The rules enforced on data that are entered into the column of a table are called \_\_\_\_\_ 1

### Column constraints



HSSLive.in

161. \_\_\_\_\_ is an SQL data type which is used to represent the variable length string.

1

**varchar**

162. Consider the following table named **ACCOUNTS**

Acc No	Name	Branch	Amount
1001	Anil	Trivandrum	30000
1002	Sanjay	Ernakulam	130000
1003	Meera	Kottayam	275000
1004	Sneha	Kottayam	50000
1005	Rajan	Thrissur	75000



(a) Write **SQL** statements to do the following:

3

(i) Display all the details of accounts with amount greater than 50000 in Ernakulam branch.

Ans: **SELECT \* FROM ACCOUNTS WHERE Amount > 50000 AND Branch = "Ernakulam";**

(ii) Display Acc. No., Branch and Amount in the descending order of amount.

Ans: **SELECT Acc No, Branch, Amount FROM ACCOUNTS ORDER BY Amount DESC;**

(iii) Display the number of accounts in each branch.

Ans: **SELECT Branch, COUNT(\*) FROM ACCOUNTS GROUP BY Branch;**

(b) Write **SQL** statements to do the following:

3

(i) Add a new record into the table.

Ans: **INSERT INTO ACCOUNTS(Acc No, Name, Branch, Amount)  
VALUES (1006, "Suresh", "Kasaragod", 25000);**

(ii) Update the amount of Sanjay to 100000.

Ans: **UPDATE ACCOUNTS SET Amount = 100000 WHERE Name = "Sanjay";**

(iii) Delete the details of Anil.

Ans: **DELETE FROM ACCOUNTS WHERE Name = "Anil";**

163. The structure of the table EMPLOYEE is given below;

5

empcode Numeric

empname String

basicpay Numeric

DA Numeric

grosspay Numeric



Write SQL statements for the following;

a) Insert a record into the table.

Ans: **INSERT INTO EMPLOYEE(empcode, empname, basicpay, DA, grosspay)  
VALUES(1,"Raju",25000,15000,40000);**

b) Update DA with 60% of basic pay

Ans: **UPDATE EMPLOYEE SET DA = basicpay \* 60/100;**

c) Display the details of employees whose basic pay is greater than 20000.

Ans: **SELECT \* FROM EMPLOYEE WHERE basicpay > 20000;**

d) Rename the table EMPLOYEE to EMPDETAILS.

Ans: **ALTER TABLE EMPLOYEE RENAME TO EMPDETAILS;**

164. Consider the following table student.

Roll_No.	Adm_No.	Name	Course	Score
11	2008	Abdulla	Commerce	90
12	2009	Prasanth	Commerce	85
13	2010	Jins	Commerce	75
14	2011	Praveen	Humanities	60
11	2012	Prasanth	Science	45
12	2013	Pallavi	Science	75
13	2014	Faizal	Science	60

a) Can you suggest an attribute that can be selected as a primary key? Justify your answer.	2
Ans: <b>Adm_No</b> can be selected as the primary key, because <b>it is unique</b> , ie it is not repeatable.	
b) Write SQL query to change the course attribute value “Humanities” of the student Praveen to “Commerce”.	1
Ans: <b>UPDATE student SET Course = “Commerce” WHERE Course = “Humanities” AND Name = “Praveen”;</b>	
c) Write SQL query to display the name and score of all students who scored greater than 60.	1
Ans: <b>SELECT Name, Score FROM student WHERE Score &gt; 60;</b>	
d) Write SQL query to remove the details of students who scored less than 50.	1
Ans: <b>DELETE FROM student WHERE Score &lt; 50;</b>	
165. How will you add a new column to an existing table using SQL statement?	2
<b>ALTER TABLE</b> command with <b>ADD COLUMN</b> clause can be used to add a new column to an existing table.	
166. Differentiate the data type CHAR and VARCHAR in SQL.	2
CHAR is a <b>fixed length data type</b> used for storing string. <b>Wastage of memory occurs</b> when the content is less of allocated size.	
VARCHAR is a <b>variable length data type</b> used for storing string. <b>No wastage of memory</b> .	
167. _____ command in SQL is used to display the structure of a table?	1
a) LIST        b) STRUCT        c) DESCRIBE        d) SHOW	
Ans: <b>DESCRIBE OR DESC</b>	
168. Write SQL for	3
a) Create a table student with the data [ name char(20), rollno number(3), marks number(3) ].	
Ans: <b>CREATE TABLE student (name char(20), rollno int, marks int);</b>	
b) List name and rollno of all students.	
Ans: <b>SELECT name, rollno FROM student;</b>	
c) List name and rollno of students having marks > 600.	
Ans: <b>SELECT name, rollno FROM student WHERE marks &gt; 600;</b>	
169. An employee table contains name, empno, basicpay, desig, da, salary.	
Write SQL for	
a) Display name, empno and basicpay of all managers ( <i>desig = “manager”</i> )	1
Ans: <b>SELECT name, empno, basicpay FROM employee WHERE desig = “manager”;</b>	
b) Display empno and salary of all employees.	1
(salary = basicpay + da) // <b>UPDATE employee SET salary = basicpay + da;</b>	
(da = basicpay * 1.15) // <b>UPDATE employee SET da = basicpay * 1.15;</b>	
Ans: <b>SELECT empno, salary FROM employee;</b>	
c) Display name and empno of all the employees whose basicpay < 10000.	1
Ans: <b>SELECT name, empno FROM employee WHERE basicpay &lt; 10000;</b>	
170. Explain different types of SQL commands	3
OR	
171. Define the following;	3
(a) DML	
DML stands for <b>Data Manipulation Language</b> . DML commands are used for inserting, editing, showing, searching, and deleting <b>data in a database</b> .	
Eg: <b>SELECT, INSERT INTO, UPDATE, DELETE</b>	
(b) DDL	
DDL stands for <b>Data Definition Language</b> . DDL commands are used for creating, editing, and deleting <b>structure of a database</b> .	
Eg: <b>CREATE TABLE, ALTER TABLE, DROP TABLE</b>	
(c) DCL	
DCL stands for <b>Data Control Language</b> . DCL commands are used for granting or revoking <b>access to the database</b> .	
Eg: <b>GRANT, REVOKE</b>	
172. Write the result of the following	
(a) <b>ALTER TABLE &lt;table name&gt; DROP &lt;column name&gt;</b>	1
Ans: This command removes a column from a table.	



(b) DELETE FROM <table name>	1
Ans: This command deletes all the rows from the table	
(c) DROP TABLE <table name>	1
Ans: This command removes the table from the database.	
173. Which is the keyword used in SQL SELECT command to eliminate duplicate values in the selection?	1
<b>DISTINCT</b>	
174. Explain any three situations to modify the structure of a table with the help of alter command in SQL.	3
1) <b>To add a new column into the table</b>	
ALTER TABLE command with ADD COLUMN clause can be used to add a new column into the table	
Eg: <b>ALTER TABLE student ADD COLUMN email varchar(20);</b>	
2) <b>To remove a column from the table</b>	
ALTER TABLE command with DROP COLUMN clause can be used to remove a column from the table	
Eg: <b>ALTER TABLE student DROP COLUMN email;</b>	
3) <b>To rename a table</b>	
ALTER TABLE command with RENAME TO clause can be used to rename the table.	
Eg: <b>ALTER TABLE student RENAME TO student1;</b>	
175. Consider the table ‘student’ with attribute admno, name, course, percentage. Write the SQL statements to do the following;	
(i) Display all the student details.	1
Ans: <b>SELECT * FROM student;</b>	
(ii) Modify the course “Commerce” to “Science”.	1
Ans: <b>UPDATE student SET course = “Science” WHERE course = “Commerce”;</b>	
(iii) Remove the student details with percentage below 35.	1
Ans: <b>DELETE FROM student WHERE percentage &lt; 35;</b>	
(iv) Create a view from the above table with percentage greater than 90.	2
Ans: <b>CREATE VIEW student_view AS SELECT * FROM student WHERE percentage &gt; 90;</b>	
176. Define view in SQL and write the syntax of the command used to create a view.	2
A <b>view is a virtual table</b> which is derived from an existing table.	
The syntax is:	
<b>CREATE VIEW &lt;view_name&gt; AS SELECT &lt;ColumnName1&gt; [,&lt;ColumnName2&gt;,..... ]                                         FROM &lt;TableName&gt; [Where &lt;Condition&gt;];</b>	
177. _____ is a Linux based mobile operating system from Google.?	1
<b>Android</b>	
178. _____ is the popular mobile OS developed by Google based on Linux Kernel.	1
a) Android                                 b) ios                                     c) blackberry                             d) go	
Ans: <b>Android</b>	
179. Write a short note on Android Operating System	2
It is an operating system used in smartphones. It is developed by Google and based on Linux operating system.	
180. Write a short note on mobile operating system.	2
It is an operating system used in smartphones. Mobile operating system is used for the working and effective utilization of mobile phones. Some of the mobile operating systems are Android, Apple, and Blackberry.	
181. Briefly explain any two ERP related technology	3
1) <b>CRM (Customer Relationship Management)</b>	
It is used for managing the relationship between customers and enterprise. Its features are sending new product details to the customers, getting product's feedback, etc	
2) <b>SCM (Supply Chain Management)</b>	
It is used to manage the supply of products through logistics. Its features are managing shipping details, tracking product delivery, etc.	
182. Define the following ERP related technologies	2
(a) CRM	
<b>CRM (Customer Relationship Management)</b>	



It is used for managing the relationship between customers and enterprise. Its features are sending new product details to the customers, getting product's feedback, etc

(b) SCM

### **SCM (Supply Chain Management)**

It is used to manage the supply of products through logistics. Its features are managing shipping details, tracking product delivery, etc.

183. Write a short note on Supply Chain Management. 2

It is used to manage the supply of products through logistics. Its features are managing shipping details, tracking product delivery, etc.

184. Expand MIS. 1

### **Management Information System.**

185. Write short note on MIS (Management Information System).  2

MIS provides information that is needed to manage organizations efficiently and effectively. It involves three primary resources: **people, technology** and **information**.

186. \_\_\_\_\_ is an Open Source ERP Software? 1

**OR**

187. \_\_\_\_\_ is an open source ERP. 1

### **Odoo**

188. \_\_\_\_\_ is a packet oriented mobile data service on GSM? 1

### **GPRS**

189. Raju sends a short text message to his friend. Explain how the text message is exchanged? 2

SMS is used for sending short message through mobile phones. SMS stands for **Short Message Service**. When Raju sends a SMS to his friend, it will stores in a **SMSC** (Short Message Service Center) server. From there, that SMS send to its destination.

190. What is Industrial Property Right? Write a short note on any two Industrial property Right 3

Industrial property right is applied to **industry, commerce** and **agricultural products**.

It includes **patents, trademark, industrial design** and **geographical indications**

#### **1) Patent**

A patent is an exclusive right granted for an invention. It provides protection for the invention to the owner of the patent. The patent is granted for a limited period.

#### **2) Trademark**

A trademark identifies the brand owner of a particular product or service.

191. Define the following terms 2

#### **(a) Trademark**

A trademark identifies the brand owner of a particular product or service.

#### **(b) Copyright**

Copyright is a legal right that grants the creator of an original work exclusive rights for its use and distribution.

192. A 4G mobile network uses \_\_\_\_\_ 1

Ans : OFDMA

193. What is Copyright? How it is different from patent?  3

**Patents** refer to an invention, whereas **copyrights** refer to the expression of an idea, such as an artistic work.

194. Define BPR. 1

Business Process Re engineering is the analysis and redesign of work flow in an enterprise.

195. How Business Process Re engineering is related to Enterprise Resource Planning? 2

**BPR** focuses on **transformation** aspect of business process while **ERP** focuses on **automation** aspect of business process. In most cases BPR is performed before ERP.

196. Explain the importance of BPR in ERP implementation 5

Business Process Re-engineering(BPR) is the analysis and redesign of work flow in an enterprise. Re-engineering helps to reduce cost and effective use of resources. BPR is a key component of ERP(Enterprise Resource Planning) success.

A business process consists of three elements

**Input**:-It includes forms, customer queries etc.

**Processing**:-It involves set of activities to get output.

**Outcome**:-It is the output of processing.

In most cases BPR is performed before ERP.

197. Selection of ERP package is very crucial in the implementation of ERP system. Give a short note on any four popular ERP packages. 5

Ans:

Selection of ERP package is crucial in implementing of an ERP system. This selection and implementation increases the productivity

Some of the popular ERP packages are:

1) **Oracle**

Oracle is popular as a database system rather than an ERP system. The ERP package of Oracle provides finance and accounting module.

2) **SAP**

SAP stands for **Systems Applications and Products** for data processing. It is a German software firm. The company develops software for business solutions.

3) **Odoo**

Odoo is an **open source ERP**. It was early called **OpenERP**. It is a comprehensive suite of business applications including Sales, CRM, Project management etc.

4) **Microsoft Dynamics**

Microsoft Dynamics is an ERP and customer relationship management(CRM) software applications. Microsoft Dynamics is part of Microsoft Business Solutions.

5) **Tally ERP**

Tally ERP is a Bangalore based software company. It is a business accounting software for accounting ,inventory and payroll.

198. Write short note on SAP. 2

SAP stands for **Systems Applications and Products** for data processing. It is a German software firm. The company develops software for business solutions.

199. Explain any three benefits of ERP system. 3

OR

200. Explain the merits of ERP system. 3

OR

201. List the benefits of ERP implementation in an Enterprise. 3

The benefits of implementing ERP system in an enterprise are

1) **Improved resource utilization**

It reduces the wastage of resources and increases better resource utilization.

2) **Better customer satisfaction**

Customer satisfaction helps to meet customer needs for a product or service. It enables to place order, track, status of order etc.

3) **Provides accurate information**

ERP provides informations needed for future planning and management of enterprise.

4) **Decision making capability**

Information helps to make decision. This helps to overcome other competitors in business.

5) **Increased flexibility**

ERP system helps to increase flexibility if an organization. Thus it can adapt to changes.

6) **Information integrity**

An ERP integrates various departments thus helps to integrate information. The information is stored centrally.

202. SAP stands for \_\_\_\_\_ 1

Ans: **Systems Applications and Products**

203. Compare GPRS and EDGE 3

OR

204. Differentiate GPRS and EDGE 2

GPRS(**General Packet Radio Services**) is a **packet oriented** data service on GSM. It has shorter access time and higher data rate.

EDGE(**Enhanced Data Rate for GSM Evolution**) is a digital mobile technology. It provides better data transmission rate for GSM. It can function on any network with GPRS. It is three times faster than GPRS.



205. Write short note on IPR infringement

3

Infringement is an action of breaking a law. The unauthorised use of intellectual property such as **patent, copyrights** and **trademarks** are called as **intellectual property infringement**.

**1) Patent infringement**

It is the use or selling a patented invention without permission from the patent holder.

**2) Trademark infringement**

It occurs when one company uses a trade mark identical to a trademark owned by another company.

**3) Copyright infringement**

It is reproducing, distributing, displaying or adapting a work without permission from the copyright holder. It is often called **piracy**.

206. Pick the odd one out

1

- a) Kit kat      b) jelly bean      c)Ice cream Sandwich      d) ios

Ans: **ios** - All others are versions of Android operating system.

207. Name the following

2

- (a) Satellite based Navigation system

Ans: **GPS** (Global Positioning System)

- (b) Service used to send messages with Multimedia content.

Ans: **MMS** (Multimedia Messaging Service)

- (c) Packet oriented mobile data service on GSM.

Ans: **GPRS** (General Packet Radio Service)

- (d) Smart card technology used only in GSM phone Systems.

Ans: **SIM** (Subscriber Identity Module)

208. Define the following terms;

2

- (i) SIM

It stands for Subscriber Identity Module. It is a smart card technology used only in GSM phone Systems

- (ii) MMS

It stands for Multimedia Messaging Service. It is a service used to send messages with Multimedia content

209. Expand the term CDMA

1

**Code Division Multiple Access**

210. Define the following terms

2

- (a) Cyber forensics

- (b) Infomania

**OR**

211. Define the terms:

2

- (i) Cyber Forensics

Ans:

**Cyber forensics** is the **practice of collecting, analysing and reporting on digital data** in a way that is legally admissible.

- (ii) Infomania

Ans:

**Infomania** is the state of **being overloaded with information** from the Internet, email, and cell phones

212. Briefly explain the application of **RFID** (Radio Frequency Identification) technology in the field of business logistics

3

Ans: RFID is used to identify and track objects in logistics. It consists of a **RFID tag** and **reader**. The tag **contains a microchip** for storing data and for sending and receiving data.

