

EDUMATE

XII

Computer Applications
(Commerce)



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Foreword

Dear Teacher,

Effective learning can be ensured only through proper assessment. Assessment helps both the learners and teachers to analyse and evaluate whether the objectives of the learning process has been met. Scientific methods of evaluation have been developed to assess the thinking skills of the learner. The learner has to be assessed based on the different thinking skills, so that his evaluation is complete in all respects. It should also be noted that evaluation is done without causing difficulty to the learner. He should be given enough practice in advance. This book is intended to familiarize the learners and the teachers with the new evaluation methods for the revised text book.

The main objective of this book is to equip the learners to face the public examinations with confidence. I hope this book caters to the requirements of both the learners and teachers.

Your comments and suggestions are welcome and will assist us in improving the contents of this book.

With regards,

Dr. J. Prasad
Director

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Learning Outcomes

- 1.1, Uses input statements in programs to enter data into the computer.

Q.1 What would be the appropriate data type to store the following?

- a. Number of students in a class room.
- b. Age of a student.
- c. Average mark of a student.
- d. A question mark (?).

**Scoring Indicators**

- a. short or int
- b. short or int
- c. float
- d. char

Score : 2

Time : 3 mts

Learning Outcomes

- 1.2.2, Uses output statements in programs to display various forms of output.

Q.2 Pick odd one out from the following loops. Give the reason.

- a. for
- b. while
- c. do while

**Scoring Indicators**

- Option c
for ... loop and while loops are entry control loop and do ... while is exit control loop

Score : 2

Time : 3 mts

Learning Outcomes

- 1.1.1, Uses input statements in programs to enter data into the computer.

Q.3 Your friend uses the following identifiers in a program. Find out the invalid identifiers with reason if not valid.

basic pay, area, date-of-birth, B3, 9A, switch

 **Scoring Indicators**

Valid identifiers: area, B3
 Invalid identifiers: basic pay - white space not allowed
 date-of-birth - not allowed
 9A - should begin with Letter
 switch - keyword not allowed

Score : 3
 Time : 4 mts

Learning Outcomes

- 1.2.2, Uses output statements in programs to display various forms of output.

Q.4 Rewrite the following code using while and do..while loop.

```
for(i=1;i<=5;++i)
{
    cout<<"\n"<<i;
}
```

 **Scoring Indicators**

Correct looping statements using while & do ... while

Score : 3
 Time : 4 mts

Learning Outcomes

- 1.2.2, Uses output statements in programs to display various forms of output.

Q.5

```
int x=5;
int y=10;
cout<<(x+y)%2;
```

 **Scoring Indicators**

1

Score : 1
 Time : 2 mts

Learning Outcomes

- 1.1.1, Uses input statements in programs to enter data into the computer.

Q.6 Classify the following C++ tokens in accordance to the table given below.

int,	%,	digit,	25.6,	"break",	=,	do,	cin
Keyword	Identifier	Literal	Operators				

 **Scoring Indicators**

Keyword	Identifier	Literal	Operators
int, do	digit, cin	"break", 25.6	%, =

Score : 2
 Time : 3 mts

Learning Outcomes

- 1.1.1, Uses input statements in programs to enter data into the computer.

Q.7 Which of the following data types of C++ has no type modifier?

- a. void b. int c. char d. short



Scoring Indicators

Option a

Score : 1

Time : 1 mt

Learning Outcomes

- 1.2.1, Uses output statements in programs to display various forms of output.

Q.8 Rewrite the following C++ code using conditional operator.

```
if (a>b)
    max=a;
else
    max=b;
```



Scoring Indicators

max=(a>b)?a:b;

Score : 2

Time : 3 mts

Learning Outcomes

- 1.2.1, Uses output statements in programs to display various forms of output.

Q.9 Rewrite the following C++ code using switch statement.

```
if (choice=='S')
    cout<<"Science";
else if (choice=='C')
    cout<<"Commerce";
else if (choice=='H')
    cout<<"Humanities";
else
    cout<<"Invalid Option";
```



Scoring Indicators

Correct code

Score : 3

Time : 5 mts

Learning Outcomes

- 1.2.1, Uses output statements in programs to display various forms of output.

Q.10 Consider the following code and predict the output.

```
int a=5, b=6, c=7;
if(a<b || b>c)
    cout<<"\nOne";
if(a<b&& b>c)
    cout<<"\nTwo";
if(!(a>b))
    cout<<"\nThree";
```

 **Scoring Indicators**

One
Three

Score : 3
Time : 4 mts

Learning Outcomes

- 1.1.1, Uses input statements in programs to enter data into the computer.

Q.11 Match the following.

Name	Symbol
Modulus operator	++
Logical operator	==
Relational operator	=
Assignment operator	?=
Increment operator	%
Conditional operator	&&

 **Scoring Indicators**

Name	Symbol
Modulus operator	%
Logical operator	&&
Relational operator	==
Assignment operator	=
Increment operator	++
Conditional operator	?=

Score : 3
Time : 3 mts

Learning Outcomes

- 1.1.2, Uses output statements in programs to display various forms of output.

Q. 12 Write the C++ expression to calculate the value of the following expression.

a. $x = \frac{(b^2 - 4ac)}{2a}$

b. $y = a^2 + 2ab + b^2$



Scoring Indicators

- a. `x = (b * b - 4 * a * c) / (2 * a);`
 b. `y = (a * a) + (2 * a * b) + (b * b);`

Score : 2

Time : 3 mts

Learning Outcomes

- 1.1.2, Uses output statements in programs to display various forms of output.

Q. 13 Write a C++ program to calculate the simple interest SI, by accepting the value principal amount P, rate of interest R and number of years N using the equation $SI = PNR/100$.



Scoring Indicators

Correct program

Score : 3

Time : 5 mts

Learning Outcomes

- 1.4.2, Compares else if ladder and switch statements.

Q. 14 Consider the following code and predict the output. Justify your answer.

```
for(int i=1;i<=10;++i)
{
    if(i==8)
    {
        break;
    }
    cout<<"\t"<<i;
}
```

 Scoring Indicators

1 2 3 4 5 6 7

Score : 3
Time : 5 mts

Learning Outcomes

- 1.4.2, Compares else if ladder and switch statements.

Q. 15 Predict the output for the following program code:

```
for (i=1;i<=10;++i)
{
    if (i==7)
    continue;
    cout<<"\t";
    cout<< i;
}
```

 Scoring Indicators

1 2 3 4 5 6 8 9 10

Score : 3
Time : 6 mts

Learning Outcomes

- 1.4.2, Compares else if ladder and switch statements.

Q. 16 How many times the following loop will be executed?

```
int S = 0, i = 0;
do
{
    S+= i;
    i++;
} while(i < = 5);
```

 Scoring Indicators

6 times

Score : 2
Time : 2 mts

Learning Outcomes

- 1.4.2, Compares else if ladder and switch statements.

Q. 17 Differentiate break and continue statements with suitable examples.

 Scoring Indicators

Correct statements with suitable example.

Score : 5
Time : 8 mts

Learning Outcomes

- 1.2.2, Uses output statements in programs to display various forms of output.

Q. 18 Write a C++ program to print to get the following output.

```

1
2      3
4      5      6
7      8      9      10

```



Scoring Indicators

Correct Program

Score : 5

Time : 8 mts

Learning Outcomes

- 1.3, Applies various forms of if statements to make decisions while solving problems.

Q. 19 Rewrite the following conditional statement with 'if' statement in C++.

```
min=(a<b) ? (a<c? a:c) : (b<c? b:c);
```



Scoring Indicators

Correct statements

Score : 3

Time : 6 mts

Learning Outcomes

- 2.1, Recognises the need for arrays.

Q.1 Following are some of the statements regarding array. Identify the correct statement.

- Array is a collection of elements of same data type.
- Array cannot be initialised during the time of declaration.
- Array allocates contiguous memory.
- An array element can be accessed using index or subscript.

**Scoring Indicators**

Option a

Score : 1

Time : 2 mts

Learning Outcomes

- 2.1.1, Recognises the need for arrays.

Q.2 Which of the following is the correct declaration of an array?

- a. `int a(10);` b. `int 10[a];` c. `a[1] int;` d. `int a[10];`

**Scoring Indicators**

Option d

Score : 1

Time : 1 mt

Learning Outcomes

- 2.1.1, Recognises the need for arrays.

Q.3 Which is the last subscript of the array `int m[25]`?

- a. 24 b. 25 c. 0 d. 26

**Scoring Indicators**

Option a

Score : 1

Time : 1 mt

Learning Outcomes

- 2.1.2, Identifies the situations where an array can be used.

Q.4 The memory size of the data type float is 4 bytes. What is the total bytes required for the array declaration float salary[10]; ?

- a. 10 b. 4 c. 40 d. 400



Scoring Indicators

Option c

Score : 2

Time : 2 mts

Learning Outcomes

- 2.1.2, Identifies the situations where an array can be used.

Q.5 `int num[100];`

The above statement declares an array named num that can store maximum _____ integer numbers.

- a. 99 b. 100 c. 101 d. Any number



Scoring Indicators

Option b

Score : 1

Time : 1 mt

Learning Outcomes

- 2.1.4, Declares an array and designs the way of coding.

Q.6 Consider the following code and predict the output.

```
int a[5]= {6, 8, 10, 20, 40};
cout<<"\n"<<a[3];
cout<<"\n"<<a[1]+a[4];
```



Scoring Indicators

20 48

Score : 2

Time : 3 mts

Learning Outcomes

- 2.1.2, Identifies the situations where an array can be used.

Q.7 If `int a[10];` is an array, then which element of the array will be referenced as `a[4]`.



Scoring Indicators

5th element

Score : 1

Time : 1 mt

Learning Outcomes

- 2.1.3, Uses arrays to refer to a group of data.

Q.8 Suppose you need to store the values 10, 20, 30, 40 and 50 into an array. Write different methods to do this problem.

Scoring Indicators

Method 1

```
int a[5] = {10, 2, 30, 40, 50};    or    int a[] = {10, 2, 30, 40, 50};
```

Method 2

```
int a[5];
```

```
a[0]=10; a[1]=20; a[2]=30; a[3]=40; a[4]=50;
```

Score : 2

Time : 3 mts

Learning Outcomes

- 2.1.4, Declares an array and designs the way of coding.

Q.9 Consider the following array declaration

```
int A[] = {4,5,8} ;    int B[] = {2,10};
```

Write a valid C++ statement for finding the difference between the last element of the array 'B' and the first element of the array 'A'.

Scoring Indicators

```
B[1] - A[0]; or A[0] - B[1];
```

Score : 1

Time : 2 mts

Learning Outcomes

- 2.1.4, Declares an array and designs the way of coding.

Q.10 Consider the following code and predict the output.

```
int sum=0;
int a[5]= {1,2,3,4,5};
for(i=0;i<4;++i)
{
    sum=sum+a[i];
}
cout<<sum;
```

Scoring Indicators

10

Score : 2

Time : 3 mts

Learning Outcomes

- 2.1, 2.2, Recognises the need for arrays. Identifies the situations where an array can be used.

Q. 11 What would be the appropriate array declaration to store the following?

- Name of a student.
- Age of 20 students.
- Mark of 6 subject.
- Average mark of 10 students in 5 subjects.



Scoring Indicators

- `char name[20];` size 20 can vary.
- `int age[20];`
- `int mark[6]` OR `float mark[6]`
- `float mark[10];`

Score : 2

Time : 3 mts

Learning Outcomes

- 2.1.4, Declares an array and designs the way of coding.

Q. 12 Consider the following code and predict the output.

```
int A[5] = {11, 12, 13, 14, 15};
int i;
for(i=4;i>=0;--i)
{
cout<<"\n"<<A[i];
}
```



Scoring Indicators

- 15
- 14
- 13
- 12
- 11

Score : 2

Time : 3 mts

Learning Outcomes

- 2.1.4, Declares an array and designs the way of coding.

Q.13 Predict the output of the following code segment.

```
int K[ ]={1, 2, 3, 4};
for(int i=0; i<4; i++)
    cout<<K[i] * K[i]<<"\t";
```

Scoring Indicators

Correct output : 1 4 9 16

Score : 3

Time : 3 mts

Learning Outcomes

- 2.1.4, Declares an array and designs the way of coding.

Q.14 Consider the following code and predict the output. Justify your answer.

```
int A[10] = {1, 2, 3, 4, 5,6,7,8,9,10};
int sum=0, i;
for(i=0;i<10;++i)
{
    if(A[i]%2==0)
    {
        sum=sum+A[i];
    }
}
cout<<"\nSum=<<sum;
```

Scoring Indicators

30

Sum of all even numbers in the array.

Score : 3

Time : 5 mts

Learning Outcomes

- 2.1.4, Declares an array and designs the way of coding.

Q.15 Write statements to declare an array and initialize it with the numbers 1, 2, 3, 4, 5 and print 5, 4, 3, 2, 1.

Scoring Indicators

Correct Program

Score : 3

Time : 5 mts

Learning Outcomes

- 2.1.4, Declares an array and designs the way of coding.

Q. 16 Consider the following array declaration. Write statements to count how many numbers are greater than zero.

```
int p[ ]= { -5, 6, -7, 0, 8, 9};
```



Scoring Indicators

Correct Program

Score : 4

Time : 6 mts

Learning Outcomes

- 2.1.4, Declares an array and designs the way of coding.

Q. 17 Write a C++ program to read 10 integer values and find the largest number among them using array.



Scoring Indicators

Correct Program

Score : 5

Time : 8 mts

Learning Outcomes

- 2.1.4, Declares an array and designs the way of coding.

Q. 18 Write a C++ program to read 6 marks of a student and find total and average mark.



Scoring Indicators

Correct Program

Score : 5

Time : 8 mts

Learning Outcomes

- 2.2, Identifies the situations where an array can be used.

Q. 19 Which data type is used to declare a variable to hold string data?



Scoring Indicators

char or array of char or char array

Score : 1

Time : 1 mt

Learning Outcomes

- 2.2, Identifies the situations where an array can be used.

Q. 20 The terminating character of string array is _____.

 Scoring Indicators

\0 or NULL character

Score : 1

Time : 1 mt

Learning Outcomes

- 2.2, Identifies the situations where an array can be used.

Q. 21 Predict the output of the following C++ statement.

```
char str[8] = "WELCOME";
cout<<"\n"<<str[3];
cout<<"\n"<<str;
```

 Scoring Indicators

C
WELCOME

Score : 2

Time : 3 mts

Learning Outcomes

- 2.2, Identifies the situations where an array can be used.

Q. 22 Write a statement for storing the string "NO SMOKING" using a character array with name 'ARR' of minimum size.

 Scoring Indicators

char ARR[11]= "NO SMOKING"; or ARR[]= "NO SMOKING";

Score : 1

Time : 2 mts

Learning Outcomes

- 2.2, Identifies the situations where an array can be used.

Q. 23 How many bytes will be allocated in the memory for storing the string "MY SCHOOL"? Justify your answer.

 Scoring Indicators

10 bytes

9 bytes is used to store 9 characters in the string MY SCHOOL and one byte is used to store NULL character.

Score : 2

Time : 3 mts

Learning Outcomes

- 2.6, Accesses the elements in an array.

Q. 24 Write a C++ programe to accept a string from the keyboard and find its length without using function. For example if "WELCOME" is accepted, the output will be 7.



Scoring Indicators

Correct Program

Score : 3

Time : 5 mts

Learning Outcomes

- 2.2, Identifies the situations where an array can be used.

Q. 25 Consider the C++ statement.

```
char str[8] = "PROGRAM";
```

What will be stored in the last location of the array str? Justify your answer.



Scoring Indicators

NULL character or \0

End of a string is a NULL character

Score : 2

Time : 3 mts

Learning Outcomes

- 2.2, Identifies the situations where an array can be used.

Q. 26 Which of the following is not a correct statement about string.

- String is an array of characters.
- String allocates contiguous memory location.
- String contains only alphabets.
- String is terminated with a NULL character.



Scoring Indicators

Option c

Score : 1

Time : 2 mts

Learning Outcomes

- 2.2, Identifies the situations where an array can be used.

Q. 27 Consider the following C++ statements

- ```
char word[20];
cin>>word;
cout<<word;
```

```
b. char word[20];
 gets(word);
 puts(word);
```

If the string entered is "HAPPY NEW YEAR". Predict the output in both cases and justify your answers.

### Scoring Indicators

- HAPPY
- HAPPY NEW YEAR

because when we use cin to accept string values, space is a delimiter for the variables.

Score : 2

*Time : 3 mts*

### Learning Outcomes

- 2.2, Identifies the situations where an array can be used.

Q. 28 Consider the following C++ statements

```
char str[] = "NO\nSMOKING";
cout<<str;
```

- What is the output of the above code?
- How many bytes will be allocated in the memory for the variable str? Justify your answer.

### Scoring Indicators

- NO SMOKING
- 11 bytes  
 \n 1 byte, \0 1 byte and 9 bytes for other chractes.

Score : 3

*Time : 3 mts*

### Learning Outcomes

- 2.6, Accesses the elements in an array.

Q. 29 Write a C++ program to accept a sentence and count the number of times the letter 's' occurs in it. For example if the sentence is 'This is my school', the output should be 3.

### Scoring Indicators

Correct Program

Score : 5

*Time : 8 mts*

## Learning Outcomes

- 2.6, Accesses the elements in an array.

Q. 30 Write a C++ program to store the given string in an array and display it in reverse order without using string function. For example if ABCD is given, the output should be DCBA.



### Scoring Indicators

Correct Program

Score : 5

*Time : 8 mts*

**Learning Outcomes**

- 3.1.1, Identifies the merits of modular programming in problem solving.

Q.1 List down the advantages of modular programming.

 **Scoring Indicators**

Advantages like reduce the size of program, less chance of errors, reduce complexity, improves reusability etc.

Score : 2

*Time : 3 mts*

**Learning Outcomes**

- 3.3, Compares character input functions.

Q.2 Choose the C++ function which can print a string.

- |              |              |
|--------------|--------------|
| a. getche()  | b. putchar() |
| c. getline() | d. puts()    |

 **Scoring Indicators**

d. puts()

Score : 1

*Time : 1 mt*

**Learning Outcomes**

- 3.3, Compares character input functions.

Q.3 Which of the following is a console function?

- a. getline()    b. write()    c. put()    d. getchar()

 **Scoring Indicators**

d. getchar()

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- 3.1.2, Classifies various input output functions for character and string data.

Q.4 Pick the odd one out and give reason.

- a. abs()    b. strlen()    c. strcmp()    d. strcpy()

 **Scoring Indicators**

22

abs() which is a mathematical function. All others are string functions.

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 3.3.2, Classifies various input output functions for character and string data.

Q.5 Consider the following C++ statement and answer the following question:

```
char word[10]="GOOD DAY";
```

Identify the correct output statement to display the string

- a. `write(word);`                      b. `cout.write(word);`  
 c. `cout(word);`                        d. `cout.write(word,10);`

### Scoring Indicators

```
cout.write(word,10);
```

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 3.3.3, Compares character input functions.

Q.6 Some statements are given below. Analyse these statements and predict the output:

```
char str1[15], str2[15];
```

```
str1[15]="DATA";
```

```
str2[15]="STORAGE";
```

```
strcat(str2,str1);
```

```
cout<<str2;
```

### Scoring Indicators

```
STORAGEDATA
```

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 3.3.3, Compares character input functions.

Q.7 If `char name[ ] = "Rajeev Kumar";` then what will be output of the following statement?

```
cout<<strlen(name);
```

### Scoring Indicators

```
12
```

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- 3.3.3, Compares character input functions.

Q.8 Choose the value of 'n' after executing the following statements in C++.

```
char s1[]="KIRAN"; char s2[]="kiran";
int n = strcmp(s1,s2);
cout<<n;
```

- a. 0      b. >0      c. <0      d. None of these

 **Scoring Indicators**

- c. <0

Score : 1

*Time : 1 mt*

**Learning Outcomes**

- 3.3.3, Compares character input functions.

Q.9 Differentiate the outputs of the following C++ statements and also give reason

- a. `cout<<strcmp("world","WORLD");`  
 b. `cout<<strcmpi("world","WORLD");`

 **Scoring Indicators**

- a. >0 b. 0

`strcmpi()` function considers both lowercase and uppercase letters as same.

Score : 2

*Time : 2 mts*

**Learning Outcomes**

- 3.3.4, Uses appropriate character and string functions for I/O operations.

Q.10 C++ has a built-in function with which we get the result of  $4^2$ .

- a. Identify the name of the function.  
 b. Identify the header file for the above function.

 **Scoring Indicators**

- a. `pow()` or `pow(4,2)`

- b. `cmath` or `math.h`

Score : 2

*Time : 2 mts*



### Learning Outcomes

- 3.3.5, Applies mathematical functions for solving problems.

Q. 11 Consider the following C++ statements and predict the output.

```
int p=isalpha('5');
cout<<p;
```



#### Scoring Indicators

0 (Zero)

Score : 1

*Time : 1 mt*

### Learning Outcomes

- 3.3.5, Applies mathematical functions for solving problems.

Q. 11 a. Predict the output of the following C++ statements:

- cout<<toupper('a');
- cout<<(char) toupper('a');



#### Scoring Indicators

a. 65      b. A

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 3.3.3, 3.3.4, 3.3.5, Compares character input functions, Uses appropriate character and string functions for I/O operations, Applies mathematical functions for solving problems.

Q. 12 Match the Following.

| A            | B                             |
|--------------|-------------------------------|
| 1. strcmp()  | a. To combine two strings     |
| 2. strcpy()  | b. To get 5 from 25           |
| 3. strcat()  | c. To get 10 from -10         |
| 4. sqrt()    | d. To change 'a' to 'A'       |
| 5. abs()     | e. To compare two strings     |
| 6. toupper() | f. To copy one string another |



#### Scoring Indicators

1-e, 2-f, 3-a, 4-b, 5-c, 6-d

Score : 3

*Time : 4 mts*

**Learning Outcomes**

- 3.3.5, Applies mathematical functions for solving problems.

Q. 13 When the number -7 is given as the argument of a predefined function in C++, it returns the value 7. Identify the function.

a. `isalpha()`    b. `isupper()`    c. `abs()`    d. `isalnum()`

 **Scoring Indicators**

c. `abs()`

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- 3.4, Uses appropriate character and string functions for I/O operations.

Q. 14 Write a C++ program to find the sum of first 'N' natural numbers using a user defined function.

 **Scoring Indicators**

Correct program structure – 1 Score

Correct function definition – 2 Score

Correct logic – 2 Scores

Score : 5

*Time : 10 mts*

**Learning Outcomes**

- 3.4.2, Classifies various input output functions for character and string data.

Q. 15 Write the need for function prototype in a C++ program.

 **Scoring Indicators**

Proper explanation about giving prior information to the compiler about the nature of the user defined function defined in the program.

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 3.4.2, Classifies various input output functions for character and string data.

Q. 16 Pick out the correct statement for prototype declaration from the following and also explain the various information it contains.

a. `product(int a, int b);`    c. `int product(a,b);`  
 b. `int product(int, int);`    d. `product(int, int);`

### Scoring Indicators

b. `int product(int, int);`

It specifies return type, name of function, number and type of arguments.

Score : 1

**Time : 2 mts**

### Learning Outcomes

- 3.4.2, Classifies various input output functions for character and string data.

Q. 17 One among the following function prototypes is wrongly written. Identify it. Also give reason.

a. `float test(float);`

c. `test (float);`

b. `float test(float, int);`

d. `int test(int);`

### Scoring Indicators

c. `test(float)` – 1 Score and Reason is that no return type is mentioned – 1 Score

Score : 2

**Time : 4 mts**

### Learning Outcomes

- 3.4.2, Classifies various input output functions for character and string data.

Q. 18 Write suitable function prototype after reading the following cases.

Case I: The function `Volume()` takes two arguments, one is *float* the other is *int* and it returns its volume.

Case II: A function `Big()` has no arguments and no return type.

Case III: A function `Print()` takes two floating point type arguments and nothing is returned.

### Scoring Indicators

Case I: `float Volume(float, int);`

Case II: `void Big(); void Big(void);`

Case III: `void Print(float, float); or void Print(double, double)`  
`or void Print(float, double)`

Score : 2

**Time : 4 mts**

## Learning Outcomes

- 3.4.2, Classifies various input output functions for character and string data.

Q.19 Find the error in the following C++ program and rectify it.

```
#include<iostream>
using namespace std;
int main()
{
int x,y,z;
cin>>x>>y;
z= x * y;
cout<<multi(x,y);
}
int multi(int a, int b)
{
return a*b;
}
```

### Scoring Indicators

Function prototype is missing – 1 Score  
Correct function prototype – 2 Scores

Score : 3  
Time : 4 mts

## Learning Outcomes

- 3.4.3, Compares character input functions.

Q.20 Differentiate formal arguments and actual arguments.

### Scoring Indicators

Correct differentiation between the two.

Score : 2  
Time : 4 mts

### Learning Outcomes

- 3.4.3, Compares character input functions.

Q. 21 Consider the following code fragment and identify formal argument and actual argument.

```
int main()
{
.....
cout<<area(p) ;
.....
}
float area(int q)
{
.....
}
```



#### Scoring Indicators

Actual argument – p Formal argument – q

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 3.4.5, Applies mathematical functions for solving problems.

Q. 22 C++, function can be called in two ways.

- Name the two types of function calls.
- Differentiate these two types with proper examples.



#### Scoring Indicators

- Call by value and Call by reference – 1 Score
- Proper illustration – 2 Scores

Score : 3

*Time : 6 mts*

**Learning Outcomes**

- 3.4.5, Applies mathematical functions for solving problems.

Q. 23 A user defined function definition is given below. Choose the most appropriate function call statement from the options.

```
float calc(int x, float y)
{
 return (x+y)/2.0;
}
```

- a. calc(2, 4)
- b. calc(2.5, 4)
- c. calc(2.5, 4.5)
- d. calc(2, 4.5)

 **Scoring Indicators**

d. calc(2, 4.5)

Score : 1  
Time : 2 mts

**Learning Outcomes**

- 3.4.5, Applies mathematical functions for solving problems.

Q. 24 Read the following C++ programs and answer the questions:

| Case I                                                                                                                                                                                                         | Case II                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>#include&lt;iostream&gt; using namespace std; int cube(int); int main() {     int a=5;     cout&lt;&lt;"Cube of the number is     : "cube(a);     return 0; } int cube(int b) {     return b*b*b; }</pre> | <pre>#include&lt;iostream&gt; using namespace std; int cube(int &amp;); int main() {     int a=5;     cout&lt;&lt;"Cube of the number is     : "cube(a);     return 0; } int cube(int &amp;b) {     return b*b*b; }</pre> |

- a. Identify the type of function call in each case.
- b. How do they differ?

### Scoring Indicators

- Call by value (Case I) and Call by reference (Case II) – 1 Score
- Proper explanation about the difference between these two types of calls – 2

Score : 3

*Time : 6 mts*

### Learning Outcomes

- 3.4.4, Uses appropriate character and string functions for I/O operations.

Q.25 Consider the following function definition:

```
int add(int a, int b=2, int c=5)
{
int s = a + b + c;
cout<<"Sum is : "<<s;
}
```

Predict the output of the above code for the following function calls:

- `add(5, 8, 10);`
- `add(5, 8);`
- `add(5);`

### Scoring Indicators

- 23
- 18
- 12

Score : 3

*Time : 4 mts*

### Learning Outcomes

- 3.4.5, Applies mathematical functions for solving problems.

Q.26 Consider the following C++ program, predict the output and justify it.

```
#include<iostream>
using namespace std;
int sqr(int &);
int main()
{
int a=5;
cout<<sqr(a);
cout<<a;
return 0;
}
```

```

int sqr(int &b)
{
 int ans;
 ans=b*b;
 b++;
 return ans;
}

```

### Scoring Indicators

The outputs are 25 and 6 - 1 Score  
 Correct justification - 2 Scores

Score : 2

*Time : 6 mts*

### Learning Outcomes

- 3.5, Applies mathematical functions for solving problems.

Q. 27 Differentiate local variable and global variable in C++ program.

### Scoring Indicators

Proper explanation with or without example.

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 3.5, Applies mathematical functions for solving problems.

Q. 28 Consider the following C++ code fragment and identify the local function and global function. Also justify your selection.

```

int main()
{
 int a=2,b=3;
 cout<<sum(a,b);
 return 0;
}

int sum(int p,int q)
{
 int ans;
 ans=p*q;
 void print()

```



```

{
cout<<"The Sum is :"<<ans;
}
return ans;
}

```

### Scoring Indicators

Local function is print() and Global function is sum() - 1 Score  
 Correct explanation - 1 Score

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 3.5, Applies mathematical functions for solving problems.

Q. 29 Read the following C++ program and identify the error and give reason.

```

#include<iostream>
using namespace std;
void disp(int);
int main()
{
int x=10;
disp(x);
return 0;
}
void disp(int y)
{
cout<<x;
cout<<y;
return ;
}

```

### Scoring Indicators

The variable 'x' will not be printed because it is declared in the main() function.

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 3.5, Applies mathematical functions for solving problems.

Q. 30 Which of the following statements are FALSE about a local function?

- Declared inside a function
- Accessible only within the function it is declared
- Accessible from anywhere in the program
- Declared outside all other functions



### Scoring Indicators

c and d

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- 4.1, Explains the need of secure communications.

Q.1 Communication on web can be classified into \_\_\_\_\_ and \_\_\_\_\_.

 **Scoring Indicators**

Client to Server and Server to Server

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- 4.1, Explains the need of secure communications.

Q.2 The protocol which is responsible for splitting the data into smaller packets is \_\_\_\_\_.

 **Scoring Indicators**

TCP

Score : 1

*Time : 1 mts*

**Learning Outcomes**

- 4.1, Explains the need of secure communications.

Q.3 The protocol which is responsible for the routing of data packets through the correct destination is \_\_\_\_\_.

 **Scoring Indicators**

IP (Internet Protocol)

Score : 1

*Time : 4 mts*

**Learning Outcomes**

- 4.1, Explains the need of secure communications.

Q.4 TCP/IP stands for \_\_\_\_\_.

 **Scoring Indicators**

Transmission Control Protocol/Internet Protocol

Score : 1

*Time : 1 mt*

### Learning Outcomes

- 4.1, Explains the need of secure communications.

Q. 5 Identify the protocol responsible for e-mail communication.

- a. DNS                      b. HTTP                      c. TCP/IP                      d. SMTP

#### Scoring Indicators

- d. SMTP

Score : 1

*Time : 1 mt*

### Learning Outcomes

- 4.1, Explains the need of secure communications.

Q. 6 Briefly explain the two types of communication on the web.

#### Scoring Indicators

Brief explanation about Client to Server and Server to Server communications.      Score : 2

*Time : 4 mts*

### Learning Outcomes

- 4.1, Explains the need of secure communications.

Q. 7 When a client send request to a server, the server must know which service is demanded by the client.

- a. How does the server identify the type of service requested?  
b. Write the name of any one of the services in the web server.

#### Scoring Indicators

- a. Port number  
b. Any service like FTP, SMTP, HTTP etc.

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 4.1, Explains the need of secure communications.

Q. 8 Following are steps for searching the IP address of a domain name by a browser. Rearrange them in proper order.

- a. Look in the local memory of ISP  
b. Look in the DNS servers starting from the root server  
c. Look in the local memory of browser  
d. Look in the local memory of Operating System

#### Scoring Indicators

Correct order is c, d, a, b

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 4.1.2, Describes web server and web hosting.

Q.9 In server to server communication, authentication is done with help of \_\_\_\_\_.

- a. HTTP      b. Digital certificate      c. Client      d. DNS



#### Scoring Indicators

- b. Digital Certificate

Score : 1

*Time : 1 mt*

### Learning Outcomes

- 4.1.2, Describes web server and web hosting.

Q.10 Which server acts between merchant server and bank server for transferring data in encrypted format?



#### Scoring Indicators

- Payment Gateway

Score : 1

*Time : 1 mt*

### Learning Outcomes

- 4.2.1, Explains the need of secure communications.

Q.11 Identify the name of a place where servers and networking systems are placed with high security.

- a. Head office      b. DNS      c. Data centre      d. IIS



#### Scoring Indicators

- c. Data centre

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 4.2.2, Describes web server and web hosting.

Q.12 Identify the port number which request for the service of sending e-mail communication.

- a. 22      b. 25      c. 53      d. 80



#### Scoring Indicators

- b. 25

Score : 1

*Time : 1 mt*

**Learning Outcomes**

- 4.2.3, Differentiates static and dynamic web pages.

Q. 13 The IP address corresponding to a domain name is present in \_\_\_\_\_ server.

 **Scoring Indicators**

DNS

Score : 1

*Time : 1 mt*

**Learning Outcomes**

- 4.4, Identifies the difference between programming languages and scripts.

Q. 14 Compare static and dynamic webpages.

 **Scoring Indicators**

Correct comparison of static and dynamic pages (minimum two value points about each type).

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 4.5, Explains different types of scripting languages.

Q. 15 Programs embedded in HTML documents are termed as \_\_\_\_\_.

 **Scoring Indicators**

Scripts

Score : 1

*Time : 1 mt*

**Learning Outcomes**

- 4.5.1, Explains the need of secure communications.

Q. 16 How client side scripting differs from server side scripting?

 **Scoring Indicators**

Correct comparison of client side and server side scripting (minimum two value points about each type).

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 4.5.1, Explains the need of secure communications.

Q. 17 Running of \_\_\_\_\_ scripts can be blocked by the user.

- Client side
- Server side
- Both client side and server side
- None of these



#### Scoring Indicators

Client side scripts

Score : 1

*Time : 1 mt*

### Learning Outcomes

- 4.5.2, Describes web server and web hosting.

Q. 18 A platform independent server side scripting language is \_\_\_\_\_.



#### Scoring Indicators

PHP

Score : 1

*Time : 1 mt*

### Learning Outcomes

- 4.5.2, Describes web server and web hosting.

Q. 19 PHP is a popular scripting language.

- Write whether it is client side or server side.
- Write a brief note on PHP.



#### Scoring Indicators

- Server side – 1 Score
- Brief description about PHP – 2 Scores

Score : 3

*Time : 4 mts*

### Learning Outcomes

- 4.5.2, Describes web server and web hosting.

Q. 20 Write brief notes on any client side scripting language and a server side scripting language.



#### Scoring Indicators

Correct explanation about any two from JavaScript, VBScript, PHP, JSP or ASP – 1 ½ score for each.

Score : 3

*Time : 8 mts*

**Learning Outcomes**

- 4.6, Compares different types of scripting languages.

Q. 21 Which among the following tools is used for easy formatting and defining style of a document written in HTML?

- a. Ajax                      b. CSS                      c. JSP                      d. JavaScript

 **Scoring Indicators**

CSS

Score : 1

*Time : 1 mt*

**Learning Outcomes**

- 4.7.3, Differentiates static and dynamic web pages.

Q. 22 Categorise the following tags in HTML and write the criterion for the categorisation.

<BR>, <P>, <BODY>, <B>, <HR>, <IMG>

 **Scoring Indicators**

Correct classification based on the concept of empty tag and container tag.

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 4.7.3, Differentiates static and dynamic web pages.

Q. 23 Differentiate empty tags and container tag with example.

 **Scoring Indicators**

Correct comparison of static and dynamic pages (minimum two value points about each type).

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 4.9, Classifies HTML tags.

Q. 24 Pick the Odd one from the following list and give reason.

(IMG, FONT, BR, ALIGN, PRE)

 **Scoring Indicators**

ALIGN which is an attribute, all others are tags.

Score : 1

*Time : 1 mt*



### Learning Outcomes

- 4.9, Classifies HTML tags.

Q. 25 Explain the use of <BODY> tag and list any four of its attributes.

#### Scoring Indicators

Correct usage of <BODY> tag and its four attributes.

Score : 3

*Time : 4 mts*

### Learning Outcomes

- 4.9.4, 4.10.6, Identifies the difference between programming languages and scripts, Compares different types of scripting languages.

Q. 26 Write True or False

- Text is an attribute of <BODY> tag to insert a text matter in the web page.
- <EM> tag functions similar to <I> tag.

#### Scoring Indicators

- False
- True

Score : 1

*Time : 1 mt*

### Learning Outcomes

- 4.9.4, Identifies the difference between programming languages and scripts.

Q. 27 Choose the correct HTML statement to display an image with file name "kerala.jpg" as the background of the web page.

- <IMG src="kerala.jpg">
- <BODY src="kerala.jpg">
- <BODY bgcolor="kerala.jpg">
- <BODY background="kerala.jpg">

#### Scoring Indicators

- <BODY background="kerala.jpg">

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 4.10, Identifies the formatting tags and attributes.

Q. 28 Two of the following HTML tags have same attribute 'Align'. Identify them. (<IMG>, <MARQUEE>, <B>, <P>, <BODY>)

 Scoring Indicators

<IMG> and <P>

Score : 1

*Time : 1 mt*

### Learning Outcomes

- 4.10.4, Identifies the difference between programming languages and scripts.

Q. 29 Identify the correct HTML statement to draw a horizontal line with half the width of the screen.

- a. <HR width="50%" size="3">      c. <HR size="50%" width="3">  
 b. <HR length="50%" size="3">      d. <HR width="50%" length="3">

 Scoring Indicators

a. <HR width="50%" size="3">

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 4.10.6, Compares different types of scripting languages.

Q. 30 Write HTML statement for displaying the following text items:

- a.  $A_2B^3$   
 b.  $A > B$

 Scoring Indicators

- a.  $A<SUB>2</SUB> B<SUP>3</SUP>$   
 b.  $A \&gt; B$

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 4.10.7, Identifies the basic HTML tags.

Q. 31 A student wants to display a poem in a web page just like as he entered in the text editor. Which tag in HTML will help him?

 Scoring Indicators

<PRE> tag

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 4.9 & 4.10, Classifies HTML tags, Identifies the formatting tags and attributes.

Q. 32 Two HTML tags are given. They are <BODY> and <FONT>. Identify and write the attribute of each from the following list.

(Size, Text, Link, Bgcolor, Color)



#### Scoring Indicators

<BODY> - Text, Link, Bgcolor <FONT> - Size, Color

Score : 2

**Time : 3 mts**

### Learning Outcomes

- 4.9 & 4.10, Classifies HTML tags, Identifies the formatting tags and attributes.

Q. 33 Write the use of *Border* and *Alt* attribute of <IMG> tag.



#### Scoring Indicators

Correct usage of the attributes Border (for giving border to the image) and Alt (for displaying an alternate text).

Score : 2

**Time : 4 mts**

### Learning Outcomes

- 4.10.6, Compares different types of scripting languages.

Q. 34 Write and explain any four text formatting tags in HTML.



#### Scoring Indicators

Any four text formatting tags with proper explanation.

Score : 2

**Time : 4 mts**

### Learning Outcomes

- 4.10, Identifies the formatting tags and attributes.

Q. 35 Match the following.

| A         | B                 | C       |
|-----------|-------------------|---------|
| <H2>      | Inserting picture | Bgcolor |
| <MARQUEE> | Heading           | Src     |
| <IMG>     | Scrolling text    | Align   |

### Scoring Indicators

Correct match as given below (1 score for each correct match).

<H2> - Heading – Align

<MARQUEE> - Scrolling text – Bgcolor

<IMG> - Inserting picture – Src

Score : 3

**Time : 4 mts**

### Learning Outcomes

- 4.10.6, 4.10.7 & 4.10.8, Compares different types of scripting languages, Identifies the basic HTML tags, Lists fundamental HTML tags and attributes.

Q. 36 Briefly explain the use of tags <Q>, <PRE> and <ADDRESS> tags.

### Scoring Indicators

Correct explanation about all three tags.

Score : 3

**Time : 9 mts**

### Learning Outcomes

- 4.10.9, Classifies HTML tags.

Q. 37 A student developed a web page about India. He wanted to display a scrolling text moving from right side to left side with a background colour blue. The text is "I Love My Country".

- Identify the tag needed for it.
- Write the HTML statement to do the task.

### Scoring Indicators

a. <MARQUEE> - 1 Score

b. <MARQUEE direction="left" bgcolor="blue" > I Love My country </<MARQUEE> -  
2 Scores

Score : 3

**Time : 6 mts**

### Learning Outcomes

- 4.10.11, Identifies the similarities and differences among formatting tags.

Q. 38 A student created a webpage about his school. The school name is displayed in the page. He wanted to change the style, colour and size of the school name. Identify the most appropriate tag in HTML needed for that.

### Scoring Indicators

<FONT> tag – 1 score

Score : 1

**Time : 2 mts**

## Learning Outcomes

- 4.9, Classifies HTML tags.

Q. 39 Write a HTML code to develop a web page about Kerala state as shown below:



The specifications for the page are:

- The main heading must be of bigger in size, centralised and bold.
- Sub headings must be lesser size than main heading and in italics.
- There should be a picture at the center of the page with file name "tree.jpg".
- The background colour of the page must be blue.



### Scoring Indicators

Correct usage basic tags (HEAD, TITLE, BODY etc.) – 2 Scores

Correct usage of special tags( FONT or H1, IMG, H2, CENTER, B etc.) – 3 Scores

Score : 5

*Time : 10 mts*

## Learning Outcomes

- 4.9 & 4.10, Classifies HTML tags, Identifies the formatting tags and attributes.

Q. 40 Write HTML code for developing a web page that display a message against smoking with following features:

- The background colour must be green
- There must be centralised heading **AVOID SMOKING** with bigger size and bold.
- There must be a sentence about problem with smoking like "*Smoking is Injurious to Health*". This must be in quotes, italics with colour red.



### Scoring Indicators

Correct usage basic tags (HEAD, TITLE, BODY etc.) – 2 Scores

Correct usage of special tags ( FONT or H1, H2, CENTER, B, I, Q etc.) – 3 Scores

Score : 5

*Time : 10 mts*

**Learning Outcomes**

- 5.1, Distinguishes various types of lists available in HTML.

Q.1 Mr. Suresh wants to prepare a list of students with register number. But he wants to start numbering from 5? How can it be done using HTML?

 **Scoring Indicators**

Ordered list <OL Start= "5"> score 2

Tag - 1 score, start - 1 score

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 5.1, Distinguishes various types of lists available in HTML.

Q.2 Create an HTML page as shown below using lists.

**The recipe for preparation***1. The ingredients*

- 100g flour
- 10g sugar
- 1 cup water
- 2 egg
- Salt and pepper

*2. The procedure*

- A. Mix dry ingredients thoroughly
- B. Pour in wet ingredients
- C. Mix for 10 mts
- D. Bake for 1 hr at 100 degree C temperature

 **Scoring Indicators**

Correct HTML code use of ordered list and unordered list

Score : 5

*Time : 10 mts*

### Learning Outcomes

- 5.1, Distinguishes various types of lists available in HTML.

Q.3 Create an HTML code to create following definition list.

Some of the important tags used in HTML are given below:

HTML

This tag marks a text as HTML document.

HEAD

This tag defines the Heading part of the HTML document

BODY

This tag defines the body section of the HTML documents.



#### Scoring Indicators

Correct HTML code (use of definition list)

Score : 3

*Time : 5 mts*

### Learning Outcomes

- 5.1, Distinguishes various types of lists available in HTML.

Q.4 Pick the wrong one from the statements given below:

- <OL>and <UL> have Type attribute
- Default numbering scheme in <OL> is 1, 2, 3...
- In Definition List, <DD> tag is used to give definition of terms
- Start attribute of ordered list should always be set to 1



#### Scoring Indicators

D. Start attribute of ordered list should always be set to 1

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 5.2, Links various web pages and sections within a webpage.

Q.5 Predict the output of the following HTML segment.

```
<OL Type= "1" start= "5">
 Chocolate
 Milk
 Coffee

```

 **Scoring Indicators**

- 5. Chocolate
- 6. Milk
- 7. Coffee

Score : 3  
*Time : 6 mts*

**Learning Outcomes**

- 5.1, Distinguishes various types of lists available in HTML.

Q. 6 Compare the use of Type attribute in Ordered and Unordered list in HTML?

 **Scoring Indicators**

Type attribute features in Ordered list and Unordered list - 1 score each.

Score : 2  
*Time : 4 mts*

**Learning Outcomes**

- 5.1, Distinguishes various types of lists available in HTML.

Q. 7 Create HTML code for the following output.

1. Flowers
  - Jasmine
  - Rose
  - Lily
2. Vegetables
  - Beetroot
  - Cabbage
  - Cucumber
3. Fruits
  - i. Apple
  - ii. Orange
  - iii. Pineapple

 **Scoring Indicators**

Correct HTML code using nested link  
Correct use of <OL>, <UL>, <Li> tags 1 score each

Score : 5  
*Time : 10 mts*



### Learning Outcomes

- 5.2, Links various web pages and sections within a webpage.

Q. 8 Which of the following is the correct way to create an email link?

- A. <A href= "abc@xyz">
- B. <mail href= "abc@xyz">
- C. <mail> "abc@xyz">
- D. <A href= "mailto: abc@xyz">

### Scoring Indicators

D. <A href= "mailto: abc@xyz">

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 5.2, Links various web pages and sections within a webpage.

Q. 9 Differentiate internal linking and external linking with examples.

### Scoring Indicators

Correct definition 1 score each. Each example ½ score each

Score : 3

*Time : 5 mts*

### Learning Outcomes

- 5.2, Links various web pages and sections within a webpage.

Q. 10 Point out the difference between relative and absolute URL.

### Scoring Indicators

Definition/Differences of absolute and relative URL - 1½ Score each.

Score : 3

*Time : 6 mts*

### Learning Outcomes

- 5.2, Links various web pages and sections within a webpage.

Q. 11 There are two web pages in the class project created by Mathew. The second page should appear in the browser when clicked at a particular text in the first page. What do you call this feature? Name the tag and attribute needed for creating such a feature.

 **Scoring Indicators**

Link - 1 Score  
<A >, Href ½ score each

Score : 2  
*Time : 3 mts*

**Learning Outcomes**

- 5.2, Links various web pages and sections within a webpage.

Q. 12 While moving the mouse pointer over a web page, the mouse pointer changes its shape to hand icon symbol.

- A. Give reason for this change in mouse pointer.
- B. Name the tag and attributes used for it.

 **Scoring Indicators**

A) It is a hyper link - score 1  
B) <A> tag, href attribute - 1 score each

Score : 3  
*Time : 6 mts*

**Learning Outcomes**

- 5.2, Links various web pages and sections within a webpage.

Q. 13 HTML has facility to provide external and internal hyper links.

- A. Which tag is used to include a hyper link?
- B. Explain two attributes needed for creating internal hyper link.

 **Scoring Indicators**

A. <A> - Score 1  
B. name, href (brief description 1 score each)

Score : 3  
*Time : 6 mts*

**Learning Outcomes**

- 5.3, Embeds various audio, and video files in a web page.

Q. 14 Match the following.

EMBED	href
OL	loop
A	start
BGSOUND	hidden

 **Scoring Indicators**

EMBED – hidden, OL-start, A-href, BGSOUND - loop (½ score for each correct answer).

Score : 2  
*Time : 4 mts*

### Learning Outcomes

- 5.4, Embeds inline audio video.

Q. 15 Name the tag which is used to play the music in background while the webpage is being viewed.

#### Scoring Indicators

<BGSOUND>

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 5.5, Lists various tags and attributes in creating a table.

Q. 16 Create the following webpage using HTML.

ANIMALS	
WILD BEAR, TIGER	DOMESTIC GOAT, DOG

#### Scoring Indicators

Correct HTML code for the Table

Tags<TABLE><TR><TD><TH> tags correct use ½ score each

Score : 5

*Time : 10 mts*

### Learning Outcomes

- 5.6, Compares tags such as TD, TH and their attributes and uses.

Q. 17 Distinguish Cellspacing and Cellpadding attributes of <TABLE> tag.

#### Scoring Indicators

Definition of cellspacing and cellpadding / difference between two –score 2

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 5.7, Illustrates the creation of Table.

Q. 18 Observe the table with two rows. Which of the following is used with TD tag to merge the cells C and D?

A	B
C	D

- A. Merge=colspan 2
- B. Rowspan= "2"
- C. Colspan= "2"
- D. Merge=row2

 **Scoring Indicators**

Colspan= "2"

Score : 1  
Time : 2 mts

**Learning Outcomes**

- 5.7, Illustrates the creation of Table.

Q. 19 Write a code to develop the following HTML table.

Sl. No.	Name	Scores		
		CE	PE	TE
1	Aju	14	18	40
2	Biju	17	18	42
3	Anees	15	16	34
4	Joy	17	19	50

 **Scoring Indicators**

Correct <HTML> code for the table - Score 5  
 <TABLE>, <TD>, <TH>,<TR> correct usage of each tag ½ score each  
 Correct usage of rowspan, colspan ½ mark each

Score : 5  
Time : 10 mts

**Learning Outcomes**

- 5.8, Illustrates the use of frames and framesets.

Q. 20 Why do we use <NOFRAME> tag?

 **Scoring Indicators**

Use of NOFRAME - score 2

Score : 2  
Time : 4 mts

## Learning Outcomes

- 5.8, Illustrates the use of frames and framesets.

Q. 21 Differentiate <FRAME>, <FRAMESET> and <NOFRAME> tags.

### Scoring Indicators

Correct definition of each tag - 1 score each

Score : 3

*Time : 6 mts*

## Learning Outcomes

- 5.9, Creates frames.

Q. 22 Aliya wants to display three webpages (A.htm, B.htm, C.htm) on the same screen horizontally at the ratio 20%, 40%, 40%. Write the HTML code for the same.

### Scoring Indicators

```
<FRAMESET ROWS="20%,40%,40%">
```

```
<FRAME Src= "A.htm">
```

```
<FRAME Src= "B.htm">
```

```
<FRAME Src= "C.htm">
```

```
</FRAMESET >
```

Correct code (score 2)

(Correct usage of <FRAMESET>, <FRAME> Src 1 score each)

Score : 3

*Time : 6 mts*

## Learning Outcomes

- 5.9, Creates frames.

Q. 23 Categorize the following tags into container tags and empty tags.

<A>, <FRAME>, <FRAMESET>, <INPUT>

### Scoring Indicators

Empty tag <FRAME>, <INPUT>

Container tag <FRAMESET>, <A> ½ score each correct statement

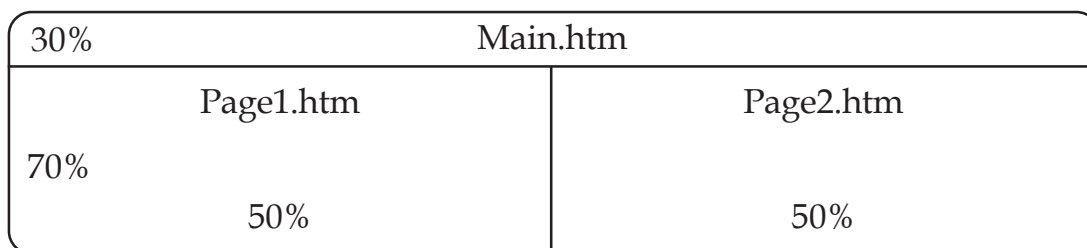
Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 5.9, Creates frames.

Q. 24 Write an HTML code to create a web page with 3 frames as shown below:



**Scoring Indicators**

- Correct code - score 3
- Correct Use of <FRAMESET>, <FRAME> tag - 1 score each

Score : 3  
**Time : 6 mts**

**Learning Outcomes**

- 5.10, Explains the use of forms in HTML.

Q. 25 Write an HTML code to create a form having facility to

- A. Input name using text box
- B. Select gender using two radio buttons
- C. Input address
- D. A submit button with caption 'OK'

**Scoring Indicators**

- HTML structure tags - 1 score
- Each sub question - 1 score each

Score : 5  
**Time : 10 mts**

**Learning Outcomes**

- 5.11, Lists the use of forms in html and its components.

Q. 26 Explain any three attributes of <FORM> tag.

**Scoring Indicators**

- Any three attributes like Action, method, Target with explanation - 1 score each. Name only ½ score each.

Score : 3  
**Time : 6 mts**

### Learning Outcomes

- 5.11, Lists the use of forms in html and its components.

Q. 27 The <FORM> tag is used to accept data and communicate with a server program.

- Name any two attributes of FORM tag.
- How will you create a "SUBMIT" button and a "RESET" button with in the FORM tag?

### Scoring Indicators

- Action, Method etc - Score 1
- <INPUT Type="submit">  
<INPUT Type="reset"> - Score 2

Score : 3  
Time : 6 mts

### Learning Outcomes

- 5.11, Lists the use of forms in html and its components.

Q. 28 Which of the following tag is used to create a list box in a html Form?

- a) <SUBMIT>    b) <INPUT>    c) <SELECT>    d) <ACTION>

### Scoring Indicators

<SELECT>

Score : 1  
Time : 2 mts

### Learning Outcomes

- 5.11, Lists the use of forms in html and its components.

Q. 29 <INPUT> tag helps in creating different types of controls in a form. **Type** is an important attribute of <INPUT> tag.

- Write any two other attributes of <INPUT> tag.
- Mention any two values of Type attribute and explain its use in the form.

### Scoring Indicators

- Name, Value etc ½ score each
- Values of type attribute - text, password, radio, reset etc any two with its use score 1 each.  
Name only score ½ each

Score : 3  
Time : 6 mts

### Learning Outcomes

- 5.11, Lists the use of forms in html and its components.

Q. 30 The tag used for creating a dropdown list in HTML is \_\_\_\_\_.

### Scoring Indicators

<Select>

Score : 1  
Time : 2 mts

## CLIENT SIDE SCRIPTING USING JAVASCRIPT

### Learning Outcomes

- 6.1, Distinguishes the use of client side and sever side scripting language.

Q.1 Among the following which one is the most correct.

JavaScript is used mostly at the

- a) client side
- b) server side
- c) client side and server side



### Scoring Indicators

option (a) - 1 score

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 6.1, Distinguishes the use of client side and sever side scripting language.

Q.2 Is it necessary to use Language="JavaScript" in the <SCRIPT> tag to specify the JavaScript code? Why?



### Scoring Indicators

No (1 score). If the language attribute is not specified, it will have the default value "JavaScript" (1 score)

Score : 2

*Time : 5 mts*

### Learning Outcomes

- 6.1, Distinguishes the use of client side and sever side scripting language.

Q.3 Read the following three statements regarding JavaScript.

- i) JavaScript can be used at the client side for data validation.
- ii) JavaScript statements are case sensitive.
- iii) JavaScript can be used only for creating web pages.



Among the above statements, identify the correct statements.

- a) only i is true.
- b) both i & ii are true.
- c) both ii & iii are correct.
- d) all the three statements are correct.

#### Scoring Indicators

option (d) - 1 score

Score : 1

*Time : 2 mts*

#### Learning Outcomes

- 6.1, Distinguishes the use of client side and server side scripting language.

Q.4 Name the tag that is used to embed scripts in a web page.

#### Scoring Indicators

<SCRIPT>

Score : 1

*Time : 2 mts*

#### Learning Outcomes

- 6.2, Explains the need of client side scripting language.

Q.5 Write the output of the following web page:

```
<HTML>
 <BODY>
 <SCRIPT language = "JavaScript">
 function show()
 {
 document.write("welcome to JavaScript");
 }
 </SCRIPT>
 </BODY>
</HTML>
```

#### Scoring Indicators

It will not display anything on the screen.

Score : 2

*Time : 4 mts*

## Learning Outcomes

- 6.2, Explains the need of client side scripting language.

Q.6 Write the output of the following web page:

```
<HTML>
 <BODY>
 <SCRIPT language = "JavaScript">
 function show()
 { document.write("welcome to
JavaScript
");
 }
 </SCRIPT>
 show();
 show();
 </BODY>
</HTML>
```



### Scoring Indicators

It will display “welcome to JavaScript” two times in two different lines on the screen.

Score : 2

*Time : 4 mts*

## Learning Outcomes

- 6.3, Identifies the importance of JavaScript as the client side scripting language.

Q.7 Among the following, identify the data types used in JavaScript

int, float, number, char, boolean, long



### Scoring Indicators

number, boolean - ½ score each.

Score : 1

*Time : 2 mts*

## Learning Outcomes

- 6.4, Uses JavaScript functions in a web page.

Q.8 In JavaScript, a variable is declared using the keyword \_\_\_\_\_.



### Scoring Indicators

var - 1 score

Score : 1

*Time : 2 mts*

## Learning Outcomes

- 6.5, Explains different data types in JavaScript.

Q.9 Write the output of the following web page and justify your answer.

```
<HTML>
 <BODY>
 <SCRIPT language = "JavaScript">
 var x, y, z;
 x = "10";
 y = "20";
 z = x+y;
 document.write(z);
 </SCRIPT>
 </BODY>
</HTML>
```



### Scoring Indicators

display 1020 (1 score), justification (1 score)

Score : 2

**Time : 4 mts**

## Learning Outcomes

- 6.6, Uses correct variables in JavaScript.

Q.10 Write the output of the following web page.

```
<HTML>
 <BODY>
 <SCRIPT language = "JavaScript">
 var n;
 for (n =1; n<=50;n++)
 {
 if(n%5 == 0)
 {
 document.write(n);
 document.write("
")
 }
 }
 </SCRIPT>
 </BODY>
</HTML>
```



### Scoring Indicators

It will display all multiples of 5 upto 50 in different lines.

Score : 3

**Time : 4 mts**

## Learning Outcomes

- 6.6, Uses correct variables in JavaScript.

Q. 11 Following web page is used to show “Passed” or “Failed” based on a mark. Mark less than 30 is considered as failed. There are some errors in the code. Correct them.

```
<HTML>

<BODY>

 <SCRIPT src="JavaScript">

 var m;

 m = 55;

 if(m < 30)

 document.print("Passed");

 document.print("Failed");

 <SCRIPT>

</BODY>

</HTML>
```

### Scoring Indicators

The correct program code is

```
<HTML>

 <BODY>

 <SCRIPT language="JavaScript">

 var m;

 m = 55;

 if(m < 30)

 document.write("Passed");

 else

 document.write("Failed");

 <SCRIPT>
```

```
</BODY>
```

```
</HTML>
```

(1 score for each error)

Score : 3

*Time : 5 mts*

### Learning Outcomes

- 6.7, Uses appropriate control structures in program codes.

Q. 12 Explain the difference between the statements.

```
document.write("welcome");
and
alert("welome");
```



### Scoring Indicators

The first one will display “welcome” on the browser window, whereas the second one will display “welcome” in a separate window ( alert window) – 1½ score for each point.

Score : 3

*Time : 4 mts*

### Learning Outcomes

- 6.7, Uses appropriate control structures in program codes.

Q. 13 Write the output of the following web page.

```
<HTML>
 <BODY>
 <SCRIPT language = "JavaScript">
 document.write("welcome");
 </SCRIPT>
 welcome
 </BODY>
</HTML>
```



### Scoring Indicators

welcome welcome

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 6.7, Uses appropriate control structures in program codes.

Q. 14 A javaScript code has the following three variables and values.

```
x = "Script";
y = "3";
z = "2";
```

Then match the following table.

A	B
x.length()	false
isNaN(x)	5
isNaN(y)	6
y+z	true
	32

 Scoring Indicators

A	B
x.length()	6
isNaN(x)	true
isNaN(y)	false
y+z	32

(½ score each)

Score : 2

Time : 4 mts

**Learning Outcomes**

- 6.8, Uses appropriate built-in functions in JavaScript.

Q. 15 Following is the web page that accepts a string from a text box, converts in to upper case and display it on the screen. Complete the missing portion in the page.

<HTML>

<HEAD>

<SCRIPT language="JavaScript">

function show()

{ var x, y;

x = .....;

y = x.toUpperCase();

alert(y);

}

<SCRIPT>

</HEAD>

```

<BODY>
 <FORM name="form1">
 Enter a string
 <INPUT type="text" name="text1">
 <INPUT type="submit" onClick()="show()">
 </FORM>
</BODY>
</HTML>

```

### Scoring Indicators

document.form1.text1.value - (½ score for each portion)

Score : 2

*Time : 5 mts*

### Learning Outcomes

- 6.9, Explains the method to access document elements using JavaScript.

Q. 16 “Placing JavaScript as an external file has some advantages”. Do you agree with this statement? Why?

### Scoring Indicators

Any three advantages, 1 score each.

Score : 3

*Time : 5 mts*

### Learning Outcomes

- 6.9, Explains the method to access document elements using JavaScript.

Q. 17 Name the attribute of <SCRIPT> tag that is used to include an external JavaScript file into a web page.

### Scoring Indicators

src

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- 7.1, Describes the use of a web server and the concept of web hosting.

Q.1 The companies that provide web hosting services are called \_\_\_\_\_.

 **Scoring Indicators**

Web Hosts

Score : 1

**Time : 1 mt**

**Learning Outcomes**

- 7.1, Describes the use of a web server and the concept of web hosting.

Q.2 The service of providing storage space in a web server to make a website available on Internet is called \_\_\_\_\_.

 **Scoring Indicators**

web hosting

Score : 1

**Time : 1 mt**

**Learning Outcomes**

- 7.2, Classifies different types of hosting.

Q.3 Consider that your school is planning to host a website. What are the factors that you will consider while choosing the type of web hosting?

 **Scoring Indicators**

Amount of space, no. of visitors, database support, programming support

Score : ½ score each

**Time : 2 mts**

**Learning Outcomes**

- 7.2, Classifies different types of hosting.

Q.4 Mr. Mohan wants to host a personal website with minimal cost. Which type of web hosting would you advise for him? Justify your answer.



 **Scoring Indicators**

Shared hosting/free hosting  
Correct justification

Score : 3

*Time : 3 mts***Learning Outcomes**

- 7.2, Classifies different types of hosting.

Q.5 Which of the following is true in the case of dedicated hosting?

- It shares server with other websites.
- It is usually inexpensive.
- It does not guarantee performance.
- It offers freedom for the clients to choose the hardware and the software.

 **Scoring Indicators**

d only

Score : 1 each

*Time : 2 mts***Learning Outcomes**

- 7.2, Classifies different types of hosting.

Q.6 Choose the odd one out, and justify your answer.

- |                   |                           |
|-------------------|---------------------------|
| a. Shared hosting | b. Dedicated hosting      |
| c. DNS            | d. Virtual Private Server |

 **Scoring Indicators**

DNS others are types of web hosting.

Score : 1 each

*Time : 3 mts***Learning Outcomes**

- 7.2, Classifies different types of hosting.

Q.7 Explain different types of web hosting?

 **Scoring Indicators**

Shared hosting, dedicated hosting, virtual private server – Listing (½ score each)  
Explanation (½ score each)

Score : 3

*Time : 4 mts*

### Learning Outcomes

- 7.2, Classifies different types of hosting.

Q. 8 Suggest a hosting type for the following websites given below. Justify.

- Website for a medical shop in your city.
- Website for Public Service Commission (PSC) of Kerala.
- Website for an online shopping facility.

#### Scoring Indicators

- Shared hosting
- Dedicated/VPS
- Dedicated/VPS

listing (½ score) + justification (½ score) each

Score : 3

**Time : 4 mts**

### Learning Outcomes

- 7.2, Classifies different types of hosting.

Q. 9 Consider that a college in your locality plans to shift its website from shared type of hosting to VPS hosting. List the advantages that the website will gain from this change.

#### Scoring Indicators

Separate server OS, Install any software, restart server, less cost than dedicated – (listing 1 score each)

Score : 3

**Time : 3 mts**

### Learning Outcomes

- 7.2, Classifies different types of hosting.

Q. 10 Suppose a software firm is designing website of a company that has around 300 web pages, around 50000 visitors per day, contains extensive PHP programming and uses database heavily. Which type of web hosting will you choose? Justify.

#### Scoring Indicators

Dedicated – 1 score  
Correct justification

Score : 3

**Time : 4 mts**

## Learning Outcomes

- 7.2, Classifies different types of hosting.

Q. 11 Consider that the website of your shop is using shared hosting. Due to an attractive discount offer in your website, your site is currently visited by a large numbers of visitors. What will be the effect of this large volume of traffic in your website on other websites hosted in the same web server? Why?

### Scoring Indicators

It will slow down all other websites hosted in the shared server

Score : 1

This is because the bandwidth is shared by several websites

Score : 1

*Time : 3 mts*

## Learning Outcomes

- 7.2, Classifies different types of hosting.

Q. 12 In dedicated hosting, if the client is allowed to place his own purchased web server in the service provider's facility, then it is called \_\_\_\_\_.

### Scoring Indicators

Co-location

Score : 1

*Time : 1 mt*

## Learning Outcomes

- 7.4, Registers a domain and hosts a website using FTP client software.

Q. 13 Emmanuel wishes to buy a suitable domain for his company. Unfortunately, the domain name he chose is already registered by someone else. Name the feature that will help him to find the current owner. List the details will he get.

### Scoring Indicators

WHOIS

Score : 1

Name, address, telephone number and e-mail address of the registrant

Score : 2

*Time : 3 mts*

## Learning Outcomes

- 7.4, Registers a domain and hosts a website using FTP client software.

Q. 14 What are the informations contains in a ICANN database?

### Scoring Indicators

Registered domain names/ name, address, telephone number and e-mail address of the registrants.

Score : 2

*Time : 3 mts*

### Learning Outcomes

- 7.4, Registers a domain and hosts a website using FTP client software.

Q. 15 What is 'A record'?

#### Scoring Indicators

'A record' is used to store the IP address of a web server connected to a domain name.

Score : 1

*Time : 1 mt*

### Learning Outcomes

- 7.4, Registers a domain and hosts a website using FTP client software.

Q. 16 What is the use of FTP client software? Give an example.

#### Scoring Indicators

Transfer of files from our computer to web server; Filezilla/CuteFTP/SmartFTP

Score : 2

*Time : 2 mts*

### Learning Outcomes

- 7.4, Registers a domain and hosts a website using FTP client software.

Q. 17 The organization that maintains the WHOIS database of domain names is \_\_\_\_\_.

#### Scoring Indicators

ICANN

Score : 1

*Time : 1 mt*

### Learning Outcomes

- 7.4, Registers a domain and hosts a website using FTP client software.

Q. 18 'A record' of the domain name stores the IP address of a web server where web pages of a website are stored. Explain the need for this.

#### Scoring Indicators

Explanation about 'A' record.

Score : 2

*Time : 3 mts*

### Learning Outcomes

- 7.4, Registers a domain and hosts a website using FTP client software.

Q. 19 Explain the advantages of using SFTP protocol in FTP client software.

#### Scoring Indicators

SSH FTP protocol encrypts and sends usernames, passwords and data to the web server.

Score : 2

*Time : 3 mts*

### Learning Outcomes

- 7.5, Explains the features of free hosting.

Q. 20 Merin plans to create a website for their family without spending money.

- List some of the limitations that Merin will face regarding the hosting space for website.
- How will she provide a domain name for the website?

#### Scoring Indicators

- Advertisements, size of files are restricted, audio/video files may not be permitted, some sites will not allow external files - Any two (1 score each)
- Free web hosting services usually provide either their own subdomain (oursite.example.com) or as a directory service (www.example.com/oursite) for accessing websites.

Score : 4

*Time : 5 mts*

### Learning Outcomes

- 7.5, Explains the features of free hosting.

Q. 21 Haseena has decided to host her new website using free hosting facility; her friend Rinisha is against this move. Can you guess her argument against the utilization of free hosting facility?

#### Scoring Indicators

Advertisements, size of files are restricted, audio/video files may not be permitted, some sites will not allow external files – (Any three - 1 score each)

Score : 3

*Time : 4 mts*

### Learning Outcomes

- 7.6, Identifies the use of Content Management System.

Q. 22 Recently more and more people are using Content Management Systems (CMS) for developing professional websites. What can be the reasons for this?

 **Scoring Indicators**

Provides standard security features in its design, helps people with less technical knowledge to design and develop websites, reduce the need for repetitive coding, availability of code for designing headings and menus, free templates – (Any three - 1 score each)

Score : 3  
*Time : 4 mts*

**Learning Outcomes**

- 7.6, Identifies the use of Content Management System.

Q. 23 Joomla is an example for \_\_\_\_\_.

- a) CMS
- b) ISP
- c) DNS
- d) None of the above

 **Scoring Indicators**

CMS

Score : 1  
*Time : 1 mt*

**Learning Outcomes**

- 7.7, Describes the need for responsive web design.

Q. 24 The responsive web design feature that converts horizontal menu to a drop down menu in mobile phones is called \_\_\_\_\_.

 **Scoring Indicators**

Media queries

Score : 1  
*Time : 1 mt*

**Learning Outcomes**

- 7.7, Describes the need for responsive web design.

Q. 25 a. What is responsive web design?  
b. Why is it gaining importance recently?

 **Scoring Indicators**

- a. Responsive web design is the custom of building a website suitable to work on every device – 1 score
- b. Today people visit websites using tablets and mobile phones/proper display of websites in devices – 1 score

Score : 2  
*Time : 3 mts*

### Learning Outcomes

- 7.7, Describes the need for responsive web design.

Q. 26 Today, we visit websites using tablets and mobile phones also. You might have noticed that the same website is displayed in a different layout in different devices.

- Name the concept used for this.
- List and explain the technologies used for implementing this concept.



### Scoring Indicators

- Responsive Web Design – 1 score
- Flexible grid layout, flexible images and media queries – 1 score each (½ score – listing + ½ score – explanation)

Score : 4

**Time : 6 mts**

### Learning Outcomes

- 7.4, Registers a domain and hosts a website using FTP client software.

Q. 27 Priya has developed a website for her shop. She has purchased a domain name and hosting space.

- Name the software that will help her to transfer her files from her computer to the web server.
- List the requirements in that software that are necessary to connect to the web server.



### Scoring Indicators

- FTP software/ FileZilla, CuteFTP, SmartFTP (Any one - 1 score)
- Domain name/IP address, user name, password (Any two - 1 score each))

Score : 3

**Time : 3 mts**

**Learning Outcomes**

- 8.1, 8.2, Recognizes the need for files, Identifies the major limitations of the conventional file management system.

Q.1 Which of the following statements are true?

- (1) DBMS facilitates storage, retrieval and management of databases.
- (2) We must keep more copies of the same data in databases.
- (3) Data inconsistency is eliminated in DBMS.
- (4) DBMS allows sharing of data, but does not ensure security.

Choose the correct option from the following:

- (a) Both 1 and 3 are true
- (b) Statements 1, 3 and 4 are true
- (c) Statements 1, 2 and 4 are true
- (d) All statements are true

**Scoring Indicators**

- (a) Both 1 and 3 are true

Score : 1

**Time : 3 mts**

**Learning Outcomes**

- 8.2, 8.3, Identifies the major limitations of the conventional file management system, Lists and explains the different advantages of the database management system.

Q.2 We have admission register, attendance register, marks register, etc. in our school to keep various details of students. Briefly describe how DBMS can replace these registers by stating any five merits.

**Scoring Indicators**

For specifying any five advantages of DBMS –  $5 \times \frac{1}{2} = 2\frac{1}{2}$  score

For connecting with given situation –  $5 \times \frac{1}{2} = 2\frac{1}{2}$  score

Score : 5

**Time : 10 mts**



### Learning Outcomes

- 8.3, Lists and explains the different advantages of the database management system.

Q.3 Which of the following refers to duplication of data in files?

- Data redundancy
- Data inconsistency
- Data integrity
- Data security



### Scoring Indicators

(a) Data redundancy

Score : 5

*Time : 2 mts*

### Learning Outcomes

- 8.3, Lists and explains the different advantages of the database management system.

Q.4 Data sharing is an essential feature of DBMS. How data sharing reduces the data inconsistency in a database? Data sharing is an essential feature of DBMS. How data sharing reduces the data inconsistency in a database?



### Scoring Indicators

Connects data redundancy, data inconsistency and data sharing.

Score : 3

*Time : 6 mts*

### Learning Outcomes

- 8.4, Lists the various components of the DBMS and explains their purpose.

Q.5 Explain the major components of DBMS.



### Scoring Indicators

Data, software, hardware, user – 2 score, Explanation – 3 score.

Score : 5

*Time : 10 mts*

### Learning Outcomes

- 8.5, Recognizes the types of users and their roles in the DBMS environment.

Q.6 The following are some responsibilities of database users. Which of them belong to Database Administrator?

- Design the conceptual schema of the database.
- Develops programs to interact with the database.
- Interacts with the database through queries.
- Ensures authorised and secured access of data.

- (a) Both 1 and 3
- (b) Except 2 and 3
- (c) 1, 2 and 4
- (d) All the four

 **Scoring Indicators**

(b) Except 2 and 3

Score : 1  
*Time : 2 mts*

**Learning Outcomes**

- 8.5, Recognizes the types of users and their roles in the DBMS environment.

Q.7 Categorise the users of DBMS and write their functions.

 **Scoring Indicators**

Four types of users – 2 score, Role of each – 2 score

Score : 4  
*Time : 8 mts*

**Learning Outcomes**

- 8.6, Explains the levels of data abstraction and data independence in DBMS.

Q.8 Choose the level of database abstraction that describes what data is stored in the database and what relationships exist among them.

- (a) External (b) Logical (c) Physical (d) View

 **Scoring Indicators**

(b) Logical

Score : 1  
*Time : 2 mts*

**Learning Outcomes**

- 8.7, Explains the relational model by citing examples.

Q.9 Write an example for relational data model.

 **Scoring Indicators**

Any table showing data and relationship among them (1 + 1 = 2 score)

Score : 2  
*Time : 5 mts*

### Learning Outcomes

- 8.8, Uses the different terminologies in RDBMS appropriately.

Q. 10 Observe the following table and choose the correct match from the following options:

| Column A       | Column B             |
|----------------|----------------------|
| 1) Cardinality | A) Row of a table    |
| 2) Degree      | B) Table             |
| 3) Relation    | C) Number of rows    |
| 4) Tuple       | D) Number of columns |
|                | E) Attribute         |

- (a)  $1 \rightarrow B, 2 \rightarrow D, 3 \rightarrow E, 4 \rightarrow C$       (b)  $1 \rightarrow C, 2 \rightarrow D, 3 \rightarrow E, 4 \rightarrow A$   
 (c)  $1 \rightarrow C, 2 \rightarrow D, 3 \rightarrow B, 4 \rightarrow A$       (d)  $1 \rightarrow D, 2 \rightarrow C, 3 \rightarrow B, 4 \rightarrow E$

### Scoring Indicators

- (c)  $1 \rightarrow C, 2 \rightarrow D, 3 \rightarrow B, 4 \rightarrow A$

Score : 1

*Time : 3 mts*

### Learning Outcomes

- 8.8, Uses the different terminologies in RDBMS appropriately.

Q. 11 Pick the odd one out and justify your answer:

- (a) Column                                      (b) Attribute  
 (c) Field                                        (d) Tuple

### Scoring Indicators

- (d) Tuple. The other three terminologies indicate the same characteristic of a table.  
 ( $\frac{1}{2} + \frac{1}{2} = 1$  score)

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 8.8, Uses the different terminologies in RDBMS appropriately.

Q. 12 Which of the keys in a relation do not allow null values? Choose the most appropriate option from the following.

- (a) Primary key  
 (b) Candidate key  
 (c) Both primary key and candidate key  
 (d) Either primary key or candidate key

 **Scoring Indicators**

(c) Both primary key and candidate key

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- 8.8, Uses the different terminologies in RDBMS appropriately.

Q. 13 Suppose a table (relation) contains the details of customers in a bank. Which attribute of the customer will be set as primary key for the table? Give reason for your opinion.

 **Scoring Indicators**

Account number – 1 score; *Justification* – 1 score

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 8.8, Uses the different terminologies in RDBMS appropriately.

Q. 14 How many distinct tuples and attributes are there in a relation with cardinality 22 and degree 7.

 **Scoring Indicators**

Number of tuples – 22, attributes – 7.

Score : 2

*Time : 2 mts*

**Learning Outcomes**

- 8.8, Uses the different terminologies in RDBMS appropriately.

Q. 15 Distinguish primary key and alternate key.

 **Scoring Indicators**

Write any 2 points

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 8.8, 8.9, Uses the different terminologies in RDBMS appropriately, Applies and evaluates the various operations in relational algebra.

Q. 16 Observe the given table named STUDENT and answer the following questions:

| Admission_No | Roll_No | Name            | Gender | Batch      |
|--------------|---------|-----------------|--------|------------|
| 1236         | 23      | Rajeev Mohan    | M      | Science    |
| 1278         | 41      | Veena Jayan     | F      | Science    |
| 1285         | 23      | Nirmal Kumar    | M      | Commerce   |
| 1292         | 18      | Maya Chandran   | F      | Humanities |
| 1301         | 35      | Rajeev Mohan    | M      | Commerce   |
| 1308         | 20      | Arunima Vijayan | F      | Humanities |

- (a) Which column of this table can be considered as primary key? Justify your answer. [2 score]
- (b) What is the degree and cardinality of this table? [1 score]
- (c) Write down the domain of column *Gender*. [1 score]
- (d) Write a relational expression to get the details of all *Female* students. [2 score]
- (e) What will be the output of the following relational expression? [2 score]

$$\pi_{\text{Name}}(\text{Batch='Science'}(\text{STUDENT}))$$

### Scoring Indicators

- (a) Admission\_No – 1 score. Specifying the criterion for primary key with respect to the given table – 1 score.
- (b) Degree – 4 and Cardinality – 6 ( $\frac{1}{2} + \frac{1}{2} = 1$  score)
- (c) {M, F} (1 score)
- (d)  $\pi_{\text{Gender='F'}}(\text{STUDENT})$   
(Correct symbol –  $\frac{1}{2}$  score, condition – 1 score, table specification –  $\frac{1}{2}$  score)
- (e) Name  
Rajeev Mohan  
Veena Jayan (1 score each for each of these names)

Score : 8

Time : 12 mts

### Learning Outcomes

- 8.8, 8.9, Uses the different terminologies in RDBMS appropriately, Applies and evaluates the various operations in relational algebra.

Q. 17 Cardinality of a table T1 is 10 and of table T2 is 8 and the two relations are union compatible. If the cardinality of result  $T1 \cup T2$  is 13, then what is the cardinality of  $T1 \cap T2$ ? Justify your answer.

 **Scoring Indicators**

5 (1 score), (Justification with union and intersection operations – 2 score)

Score : 3

**Time : 6 mts**

**Learning Outcomes**

- 8.8, 8.9, Uses the different terminologies in RDBMS appropriately, Applies and evaluates the various operations in relational algebra.

Q. 18 Cardinality of a table A is 10 and of table B is 8 and the two relations are union compatible.

What will be the maximum possible cardinality of  $(A \cup B)$  and  $(A \cap B)$  ?

What will be the minimum possible cardinality of  $(A \cup B)$  and  $(A \cap B)$  ?

Give justification for your answers.

 **Scoring Indicators**

Maximum possible cardinality of  $(A \cup B)$  is 18.

Maximum possible cardinality of  $(A \cap B)$  is 8.

Minimum possible cardinality of  $(A \cup B)$  is 10

Minimum possible cardinality of  $(A \cap B)$  is 0.

(Results –  $4 \times \frac{1}{2} = 2$  score; Justification –  $4 \times 1 = 4$  score)

Score : 6

**Time : 6 mts**

**Learning Outcomes**

- 8.9, Applies and evaluates the various operations in relational algebra.

Q. 19 A table with three columns is given below. For each relational operation given in the 1<sup>st</sup> column find the best matches from 2<sup>nd</sup> and 3<sup>rd</sup> columns.

| Operation         | Symbol       | Feature                                                                                           |
|-------------------|--------------|---------------------------------------------------------------------------------------------------|
| 1. Select         | a)           | (i) Output will be only those rows in the first operand table that are not in the second operand. |
| 2. Union          | b) – (minus) | (ii) Gives the horizontal subset of the operand table.                                            |
| 3. Set Difference | c) (sigma)   | (iii) Gives a table that contains all rows of the operand tables.                                 |
|                   | d)           | (iv) Gives the vertical subset of the operand table.                                              |

### Scoring Indicators

1 → c → (ii), 2 → d → (iv), 3 → b → (i)

(1 score ( $\frac{1}{2} + \frac{1}{2}$ ) each for correct 2 matches for each item in 1<sup>st</sup> column. If the item from either 2<sup>nd</sup> or 3<sup>rd</sup> column does not match for an operation, reduce  $\frac{1}{2}$  score)

Score : 3

**Time : 4 mts**

### Learning Outcomes

- 8.9, Applies and evaluates the various operations in relational algebra.

Q. 20 Which of the following operations can extract the specified columns of a table?

(a) Selection (b) Projection (c) Intersection (d) Set Difference

### Scoring Indicators

(b) Projection

Score : 1

**Time : 2 mts**

### Learning Outcomes

- 8.9, Applies and evaluates the various operations in relational algebra.

Q. 21 Observe the given table BOOK and write down the outputs of the following relational expressions:

| Book_Code | Book_Title            | Publisher         | Price |
|-----------|-----------------------|-------------------|-------|
| C105      | Computer Fundamentals | BPB               | 198   |
| C108      | C++ Programming       | BPB               | 170   |
| P105      | Physics               | NCERT             | 215   |
| P112      | Physics               | SCERT             | 200   |
| C112      | Mystery of Chemistry  | Tata MacGraw Hill | 189   |

(a)  $\text{Publisher} = \text{'BPB'}$  (BOOK)

(b)  $\text{Book\_Title}(\text{Price} < 200(\text{BOOK}))$

### Scoring Indicators

Correct resultant rows – 1 score, attribute names 1 score for each of the questions.

Score : 4

**Time : 8 mts**

### Learning Outcomes

- 8.9, Applies and evaluates the various operations in relational algebra.

Q. 22 The schema of a table is EMPLOYEE(emp\_code, emp\_name, designation, salary). Write down the relational expressions for the following:

- (a) To get the name and designation of all employees. [2 score]
- (b) To get the details of employees whose salary is above 25000. [2 score]
- (c) To get the names of employees who designation is Manager. [3 score]
- (d) To get the details of Managers with salary less than 25000. [3 score]

### Scoring Indicators

Correct symbols – ½ score, Conditions – 1 score, Table – ½ score

Nested query – 1 score

Score : 3

*Time : 8 mts*



**Learning Outcomes**

- Recognise the importance and features of Structured Query Language (9.1).

Q.1 How is SQL different from other computer high level languages?

 **Scoring Indicators**

Definition and purpose of SQL.

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- Explain the components of SQL. Distinguish DDL, DML and DCL commands (9.2, 9.3).

Q.2 Which are the components of SQL? How do they help to manage database?

 **Scoring Indicators**

Components – 1½ score; Role of each – 1½ score

Score : 3

*Time : 4 mts*

**Learning Outcomes**

- List different data types and their features (9.5).

Q.3 Differentiate CHAR and VARCHAR data types of SQL.

 **Scoring Indicators**

Correct difference – 1 + 1 = 2 score

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- Explain the effect of different constraints (9.6).

Q.4 Suppose we want to include a column in a table in which serial numbers are to be stored automatically on adding new records. Which constraint is to be used for that column during table creation?

 **Scoring Indicators**

Auto\_Increment

Score : 1

*Time : 2 mts*

### Learning Outcomes

- Explain the effect of different constraints. Use DML commands like SELECT, INSERT, UPDATE and DELETE for data manipulation (9.6).

Q.5 Distinguish the SQL keywords UNIQUE and DISTINCT.

#### Scoring Indicators

UNIQUE – Avoids duplication while storing data. Used with CREATE command.

DISTINCT – Avoids duplication while retrieving data. Used with SELECT command.

1 score for each differentiating point.

Score : 2

**Time : 4 mts**

### Learning Outcomes

- Perform operations using DDL commands like CREATE, ALTER and DROP (9.6, 9.8).

Q.6 Which of the following cannot be used to name a table in SQL? Give the reason.

- (a) Studnt50                      (b) Table  
(c) \$Employee                    (d) Stock\_123

#### Scoring Indicators

(b) Table – 1 score; It is a keyword and hence not allowed – 1 score

Score : 1

**Time : 3 mts**

### Learning Outcomes

- Perform operations using DDL commands like CREATE, ALTER, DROP (9.7).

Q.7 Identify errors in the following SQL statement and rewrite it correctly. Underline the corrections.

```
CREATE student TABLE
(admno PRIMARY KEY,
roll no INT,
name CHAR);
```

#### Scoring Indicators

Four corrections –  $\frac{1}{2} \times 4 = 2$  score

Score : 2

**Time : 3 mts**

### Learning Outcomes

- Perform operations using DDL commands like CREATE, ALTER, DROP (9.7).

Q.8 Which of the following commands is used to view the structure of a table?

- (a) SHOW TABLES                      (b) DESC  
(c) SELECT                                    (d) DISPLAY



**Learning Outcomes**

- Use DML commands like SELECT, INSERT, UPDATE, DELETE for data manipulation (9.8).

Q. 12 Find the correct clause from the 2<sup>nd</sup> column for each SQL command in the 1<sup>st</sup> column.

| Command   | Clause  |
|-----------|---------|
| 1. INSERT | a. SET  |
| 2. SELECT | b. FROM |
| 3. UPDATE | c. INTO |
| 4. ALTER  | d. ADD  |

 **Scoring Indicators**

½ score for each correct match

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- Use DML commands like SELECT, INSERT, UPDATE, DELETE for data manipulation (9.8).

Q. 13 Identify the errors in the following SQL statement and give reason for the error.

```
SELECT FROM STUDENT
ORDER BY Group
WHERE Marks above 50;
```

 **Scoring Indicators**

Identifying 4 errors and giving reason for each – 4 x ½ = 2 score. (Group is a keyword)

Score : 2

*Time : 5 mts*

**Learning Outcomes**

- Use DML commands like SELECT, INSERT, UPDATE, DELETE for data manipulation (9.8).

Q. 14 Which is the keyword used with SELECT command to avoid duplication of rows in the selection?

 **Scoring Indicators**

DISTINCT

Score : 1

*Time : 2 mts*

### Learning Outcomes

- Use DML commands like SELECT, INSERT, UPDATE, DELETE for data manipulation. Identify various clauses associated with SQL commands and their purpose (9.8, 9.9).

Q. 15 Which of the following is the correct order in the usage of SELECT command in SQL?

- (a) SELECT, FROM, ORDER BY, WHERE
- (b) SELECT, WHERE, FROM, ORDER BY
- (c) SELECT, FROM, WHERE, ORDER BY
- (d) SELECT, ORDER BY, FROM, WHERE



### Scoring Indicators

- (c) SELECT, FROM, WHERE, ORDER BY

Score : 1

*Time : 2 mts*

### Learning Outcomes

- Use DML commands like SELECT, INSERT, UPDATE, DELETE for data manipulation. Identify various clauses associated with SQL commands and their purpose (9.8, 9.9).

Q. 16 Read the following SQL statements:

- (a) `SELECT * FROM STUDENT WHERE Marks >= 80 AND Marks <= 89;`
- (b) `SELECT * FROM STUDENT  
WHERE Batch = 'Science' OR Batch = 'Commerce';`

Now, rewrite these statements by replacing the relational and logical operators with some other operators to get the same output.



### Scoring Indicators

Use of BETWEEN...AND and IN operators - 1 score each

Score : 2

*Time : 4 mts*

### Learning Outcomes

- Identify various clauses associated with SQL commands and their purpose (9.9).

Q. 17 Pick odd one out and write reason:

- (a) WHERE
- (b) ORDER BY
- (c) UPDATE
- (d) GROUP BY

 **Scoring Indicators**

(c) UPDATE – ½ score; It is a command, others are clauses – ½ score

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- Identify various clauses associated with SQL commands and their purpose (9.9).

Q. 18 Which of the following clause is not used with SELECT command in SQL?

- (a) GROUP BY    (b) WHERE    (c) SET    (d) ORDER BY

 **Scoring Indicators**

(c) SET

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- Identify various clauses associated with SQL commands and their purpose (9.9).

Q. 19 Suppose a column named *Fee* does not contain any value for some records in the table named STUDENT. Write SQL statement to fill these blanks with 1000.

 **Scoring Indicators**

Proper use of Update command – 1 score, Concept of IS NULL operator – 1 score

Score : 2

*Time : 3 mts*

**Learning Outcomes**

- Use DML commands like SELECT, INSERT, UPDATE, DELETE for data manipulation. Identify various clauses associated with SQL commands and their purpose, Use operators for setting different conditions (9.8, 9.9, 9.10).

Q. 20 Consider the table ITEMS.

| Item_Code | Name     | Category   | Unit_Price | Sales_Price |
|-----------|----------|------------|------------|-------------|
| 0001      | Pencil   | Stationery | 5.00       | 8.00        |
| 0002      | Pen      | Stationery | 8.00       | 10.00       |
| 0003      | Notebook | Stationery | 10.00      | 20.00       |
| 0004      | Chappal  | Footwear   | 50.00      | 70.00       |
| 0005      | Apple    | Fruits     | 60.00      | 90.00       |
| 0006      | Orange   | Fruits     | 40.00      | 60.00       |
| 0007      | Pen      | Stationery | 10.00      | 9.00        |

Predict the output of the following queries.

- SELECT ITEMCODE, NAME FROM ITEMS WHERE CATEGORY = 'Stationery';
- SELECT \* FROM ITEMS WHERE SALES\_PRICE < UNIT\_PRICE;
- SELECT CATEGORY, COUNT(\*) FROM ITEMS GROUP BY CATEGORY;

### Scoring Indicators

Correct output

Score : 3

*Time : 6 mts*

### Learning Outcomes

- Use operators for setting different conditions (9.10).

Q. 21 \_\_\_\_\_ operator in SQL is used with wildcard characters for selection of records.

- a) LIKE                      b) IN                      c) NOT IN                      d) IN and NOT IN

### Scoring Indicators

(a) LIKE

Score : 1

*Time : 2 mts*

### Learning Outcomes

- Explain the effect of different constraints, List different aggregate functions and their usage (9.6, 9.11).

Q. 22 Classify the following SQL elements into two and give proper title for each category.

NOT NULL, AVG, COUNT, CHECK, SUM, DEFAULT

### Scoring Indicators

Constraints and aggregate functions –  $\frac{1}{2} + \frac{1}{2} = 1$  score; Proper grouping – 1 score

Score : 3

*Time : 2 mts*

**Learning Outcomes**

- 10.1, 10.3, Identifies the need of ERP, Explains the importance of BPR in ERP implementation.

Q.1 Give an example for an enterprise from your real life and identify different departments/functional units in it.

 **Scoring Indicators**

An example for enterprise (Score - 1)

Listing of important departments (Score - 2)

Score : 3

**Time : 5 mts**

**Learning Outcomes**

- 10.2, Lists different functional units of ERP.

Q.2 “The key concept of ERP is a centralised database management system”. Justify.

 **Scoring Indicators**

ERP is an integrated business management system which uses a single database to store and communicate information of various departments of an enterprise.

Score : 2

**Time : 4mts**

**Learning Outcomes**

- 10.3, Explains the importance of BPR in ERP implementation.

Q.3 “The number and functioning of modules vary with the nature of enterprise and the type of ERP package.” List any six common modules of an enterprise.

 **Scoring Indicators**

For each module - ½ Score.

Score : 3

**Time : 5 mts**



### Learning Outcomes

- 10.5, Lists some important ERP packages.

Q. 4 The first five phases of ERP implementation are listed below. Rearrange them in correct order.

Package selection, BPR, Gap analysis, pre evaluation screening, project planning.



#### Scoring Indicators

Correct order of implementation phases

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 10.7, Becomes familiar with some technologies related to ERP.

Q. 5 Pick the odd one out from the following list and justify the selection.

CRM, MIS, SCM, SAP



#### Scoring Indicators

SAP. Others are ERP related technologies. SAP is an ERP package.

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 10.3, 10.4, Explains the importance of BPR in ERP implementation, Recognizes different phases in implementing ERP.

Q. 6 Consider the following two statements.

Statement 1: "The number of functional modules in an ERP vary with nature of enterprise"

Statement 2: "There is no connection between BPR and ERP"

Then choose the correct one from the following.

- Both statements are true
- Both statements are false
- Statement 1 is true and statement 2 is false
- Statement 1 is false and statement 2 is true



#### Scoring Indicators

iii. Statement 1 is true and statement 2 is false

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- 10.2, Lists different functional units of ERP.

Q.7 Choose the correct answer from the following:

Implementation of ERP in an enterprise \_\_\_\_\_.

- a) minimize planning risks.
- b) integrates different functional units of an enterprise.
- c) uses centralized data base.
- d) All the above.

 **Scoring Indicators**

d) all the above

Score : 1  
Time : 2 mts

**Learning Outcomes**

- 10.2, 10.5, 10.6, Lists different functional units of ERP, Lists some important ERP packages, Explains the benefits and risks of ERP implementation.

Q.8 Match the following.

|                     |                           |
|---------------------|---------------------------|
| i) Financial module | a) Supply chain           |
| ii) ORACLE          | b) Functional unit of ERP |
| iii) BPR            | c) ERP package            |
| iv) SCM             | d) Reengineering          |

 **Scoring Indicators**

i-b, ii-c, iii-d, iv-a

Score : 2  
Time : 4 mts

**Learning Outcomes**

- 10.7, Becomes familiar with some technologies related to ERP.

Q.9 Mr. Suresh uses separate software for managing different functional units of an enterprise and Mr. Saleem uses an integrated software package for managing overall functioning of the enterprise. Compare the benefits and risks of above two methods of an enterprise management.

 **Scoring Indicators**

Benefits and limitations of ERP

Score : 5  
Time : 9 mts

### Learning Outcomes

- 10.7, Becomes familiar with some technologies related to ERP.

Q. 10 Write a short note about the following terms:

- DSS
- MIS



#### Scoring Indicators

Two valid points about each term - 2 score each

Score : 4

*Time : 8 mts*

### Learning Outcomes

- 10.5, Lists some important ERP packages.

Q. 11 "Implementation of an ERP system in an enterprise is not a single step action". Justify this statement by listing all the phases of ERP implementation in correct order.



#### Scoring Indicators

Justify by listing all phases of ERP implementation

Score : 5

*Time : 8 mts*

### Learning Outcomes

- 10.2, 10.6, Lists different functional units of ERP, Explains the benefits and risks of ERP implementation.

Q. 12 State True or False

- Every ERP package can manage all the functional units of an enterprise.
- In ERP, a centralized database is used for integrating functional units.



#### Scoring Indicators

i) False ii) True

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- 10.6, Explains the benefits and risks of ERP implementation.

Q. 13 “Selection of ERP package is one of the important phases of ERP implementation”. Write a short note about any of the ERP packages.

 **Scoring Indicators**

Any two valid points about an ERP package

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 10.4, Recognizes different phases in implementing ERP.

Q. 14 Briefly explain the importance of Business Process Re-engineering (BPR) in the implementation of ERP in an enterprise.

 **Scoring Indicators**

Any two valid points

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 10.1, Identifies the need of ERP.

Q. 15 ERP stands for \_\_\_\_\_.

- a) Enterprise Resource Project
- b) Enterprise Resource Processing
- c) Enterprise Resource Planning
- d) Enterprise Requirement Planning

 **Scoring Indicators**

c) Enterprise Resource Planning

Score : 2

*Time : 1 mt*

**Learning Outcomes**

- 11.1, Identifies the various mobile computing technologies.

Q.1 Define Mobile computing.

**Scoring Indicators**

Correct definition

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 11.2, Explains generations in mobile communication.

Q.2 Match the following.

| A      | B                                                    |
|--------|------------------------------------------------------|
| a. 1 G | i. LTE (Long Term Evolution)                         |
| b. 2 G | ii. GSM & CDMA                                       |
| c. 3 G | iii. Analog system which support only voice facility |
| d. 4 G | iv. WCDMA                                            |

**Scoring Indicators**

|     |                                                 |
|-----|-------------------------------------------------|
| 1 G | Analog system which support only voice facility |
| 2 G | GSM & CDMA                                      |
| 3 G | WCDMA                                           |
| 4 G | LTE (Long Term Evolution)                       |

(Each correct answer ½ Score )

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 11.2, Explains generations in mobile communication.

Q.3 Expand the term GPRS.

**Scoring Indicators**

General Packet Radio Services

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- 11.2, Explains generations in mobile communication.

Q. 4 “2G networks introduced data services for the mobile. Two popular standards of 2G systems are GSM and CDMA.”

- A. Expand CDMA.
- B. Discuss the different technologies that are used to enhance data communication features of GSM.

 **Scoring Indicators**

- A. Code Division Multiple Access Mark - 1
- B. GPRS and EDGE Name only ½ mark each, with explanation 1 mark each

Score : 3  
*Time : 6 mts*

**Learning Outcomes**

- 11.2, Explains generations in mobile communication.

Q. 5 Discuss various generations of mobile communication.

 **Scoring Indicators**

- Any two valid points about 1, 2, 3, 4, 5 generations 1 mark each.
- Just name only ½ mark each

Score : 5  
*Time : 10 mts*

**Learning Outcomes**

- 11.3, Uses mobile communication services.

Q. 6 SMS messages are exchanged using the protocol called \_\_\_\_\_.

 **Scoring Indicators**

- SS7 (Signaling System No. 7)

Score : 1  
*Time : 2 mts*

**Learning Outcomes**

- 11.4, Recognises the features of mobile operating system.

Q. 7 Pick the odd one out and justify your answer.

- A. SMS
- B. MMS
- C. GPS
- D. Android

 **Scoring Indicators**

Android. Correct justification.

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 11.2, Explains generations in mobile communication.

Q. 8 “Mobile communication offers many services apart from the basic voice calling facility”

- Name the service which helps to locate a geographical position anywhere on the earth.
- Differentiate SMS and MMS.

 **Scoring Indicators**

A. GPS - Score 1

B. Any two difference/Definitions of each 1 score each

Score : 3

*Time : 2 mts*

**Learning Outcomes**

- 11.2, Explains generations in mobile communication.

Q. 9 Which among the following statements is wrong in relation with 2G network?

- It support MMS.
- It can provide only voice Service.
- GSM and CDMA are two popular standards introduced in 2G.
- 2G Network were later expanded to include GPRS and EDGE.

 **Scoring Indicators**

B

Score : 1

*Time : 2 mts*

**Learning Outcomes**

- 11.3, Uses mobile communication services.

Q. 10 Write a short note on GPS.

 **Scoring Indicators**

Any two valid points

Score : 2

*Time : 4 mts*

**Learning Outcomes**

- 11.4, Recognises the features of mobile operating system.

Q. 11 Pick the odd one out.

- A. Windows
- B. Android
- C. IOS
- D. Linux

 **Scoring Indicators**

D. Linux

Score : 1  
*Time : 2 mts*

**Learning Outcomes**

- 11.4, Recognises the features of mobile operating system.

Q. 12 Write a short note on Android OS.

 **Scoring Indicators**

Any two points

Score : 2  
*Time : 4 mts*

**Learning Outcomes**

- 11.10, Explains cyber laws and ethics.

Q. 13 “In some of the states ration cards have been replaced by smart cards”

What is a smart card? List any two advantages of replacing ration card using smart cards?

 **Scoring Indicators**

Definition of smart card - 2 Score  
Any two advantages - 2 Score

Score : 4  
*Time : 8 mts*

**Learning Outcomes**

- 11.5, Discovers the features of Android operating system.

Q. 14 Business firms have started watching the conversation and opinions posted in social media. Why?



### Scoring Indicators

Importance of customer feedback, opinions, suggestions etc. Any two valid points 1 score each

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 11.5, Discovers the features of Android operating system.

Q. 15 “The following is a figure of a tag which helps in business logistics”

- A. Name the tag shown in the figure.  
B. How it helps business logistics?



### Scoring Indicators

A. RFID tag-score 1

B. Any two advantages of using RFID-1 Score each

Score : 3

*Time : 6 mts*

### Learning Outcomes

- 11.6, Applies ICT in business.

Q. 16 “IPR (Intellectual Property Right) encourages innovation” Justify.

### Scoring Indicators

It enables to earn recognition, financial benefit, can sell the innovation etc. It motivates further innovation - any 3 points 1 score each.

OR

Just definition of IPR - score 1

Score : 3

*Time : 6 mts*

### Learning Outcomes

- 11.4, Recognises the features of mobile operating system.

Q. 17 Write a short note on

- A. Trade mark  
B. Industrial design

### Scoring Indicators

Definition of each term 2 score each

Score : 4

*Time : 8 mts*

### Learning Outcomes

- 11.6, Applies ICT in business.

Q. 18 Compare patent and Trade mark.

#### Scoring Indicators

Definition of each term 2 score each

Score : 4

*Time : 8 mts*

### Learning Outcomes

- 11.6, Applies ICT in business.

Q. 19 \_\_\_\_\_ refers to the exclusive right given to a person over the creation of his/her mind for a period of time.

#### Scoring Indicators

Patent/Intellectual Property Right

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 11.6, Applies ICT in business.

Q. 20 Write a short note on intellectual property theft.

#### Scoring Indicators

Any two valid points

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 11.7, Lists and explains various intellectual property rights.

Q. 21 What is cyberspace?

#### Scoring Indicators

Any two valid points

Score : 2

*Time : 4 mts*

### Learning Outcomes

- 11.8, Explains cyber space.

Q. 22 “Due to anonymous nature of Internet it is possible for the people to engage in variety of criminal activities. “ Justify the statement with special reference to cyber crimes taking place against Individual.

### Scoring Indicators

Explanation of any five cyber crimes against individuals such as Identity theft, Harassment, Impersonation and cheating, violation of privacy, Dissemination of obscene material ... each term 1 score each

Score : 5

*Time : 5 mts*

### Learning Outcomes

- 11.9, Distinguishes different types of cyber crimes.

Q. 23 Which among the following are considered as violation to privacy?

- 1) Keeping hidden cameras in private places
  - 2) Publishing private photos of individual in social media without their permission
  - 3) Use of unauthorized software
  - 4) Using simple password
- A. All the above are correct  
 B. 1, 2 and 3 only  
 C. 1 and 4 only  
 D. 1 and 2 only

### Scoring Indicators

D. 1 and 2 only

Score : 1

*Time : 2 mts*

### Learning Outcomes

- 11.10, Explains cyber laws and ethics.

Q. 24 Write a short note on the importance of IT Act 2000.

### Scoring Indicators

Any three valid points. Each 1 Score

Score : 3

*Time : 6 mts*

### Learning Outcomes

- 11.11, Scope of cyber forensics.

Q. 25 “Infomania affects peoples’ lives – and their loved ones” Justify.

### Scoring Indicators

Definition of infomania 1 score, any two affects on individual 2 score

Score : 3

*Time : 6 mts*