EDUMATE

XII

Computer Science

Government of Kerala

DEPARTMENT OF EDUCATION

State Council of Educational Research and Training (SCERT), Kerala
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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

Contents

Units

Unit 1

STRUCTURES AND POINTERS

Learning Outcomes

- 1.1, Identifies the need of user defined data types and uses structure to represent grouped data.

Q. 1 Define a structure in C++ to store book details such as book id, book name, price and author name.

Scoring Indicators

Correct structure definition with suitable data type for structure elements — Score : 2

Time : 4 mts

Learning Outcomes

- 1.1, Identifies the need of user defined data types and uses structure to represent grouped data.

Q. 2 Complete the following structure definition, to store students details with appropriate values. Students details are roll number, name and height.

```
_____ students
{
   _____ rno;
   char _____;
   _______ height;
};
```

Scoring Indicators

```
struct students
{
   short   rno;
   char    name[25];
   float   height;
};
```

Score : 2

Time : 3 mts

Learning Outcomes

- 1.1, Identifies the need of user defined data types and uses structure to represent grouped data.

Q. 3 Correct the following structure definition to represent an employee with employee code, employee name and salary.

```
Employee struct
{
  ecode int;
  char ename[25];
  salary double;
}
```

Scoring Indicators

```
struct Employee
{
  int ecode;
  char ename[25];
  double salary;
};
```

Score : 2

Time : 4 mts

Learning Outcomes

- 1.2, Creates structure data types and accesses elements to refer to the data items.

Q. 4 A structure variable can be declared along with structure definition." Justify this statement with an example.

Scoring Indicators

A structure variable declaration with the following format.

```
struct struct_name
{
.....................
.....................
...................
}structure_variable;
```

Score : 3

Time : 5 mts

Learning Outcomes

- 1.2, Creates structure data types and accesses elements to refer to the data items.

Q. 5 Choose the correct syntax for accessing a structure element.

a) `structure_name.element_name;`
b) `element_name.structure_name;`
c) `structure_variable.element_name;`
d) `element_name.structure_variable;`

Scoring Indicators

c) `structure_variable.element_name;` Score : 1

Time : 2 mts

Learning Outcomes

- 1.1, Identifies the need of user defined data types and uses structure to represent grouped data.

Q. 6 Complete the the following table. The table is differentiating array and struture.

Array	Structure
A derived data type _____	_____ Collection of different types of data

Scoring Indicators

Array	Structure
Is a derived data type Collection of same type of data	A user defined data type Collection of different types of data

Score : 2

Time : 3 mts

Learning Outcomes

- 1.3, Uses nested structure to represent data consisting of elementary data items and grouped data items.

Q. 7 Define a structure in C++ to store students' details such as admission number, name, address. Address contains house number, street name and city name.

Scoring Indicators

Structure definition with the help of nested structure.

Score : 3

Time : 5 mts

Learning Outcomes

- 1.5, Explains the concept of pointers and uses pointer with the operator & and *.

Q. 8 Which one of the following is not correct about a pointer.

i) A pointer stores address

ii) A Pointer stores L-value of a variable

iii) A Pointer points to a memory location

iv) A pointer stores R-Value of a variable

Scoring Indicators

iv) A pointer stores R-Value of a variable Score : 1

Time : 2 mts

Learning Outcomes

- 1.5, Explains the concept of pointers and uses pointer with the operator & and *.

Q. 9 The following are some pointer variable declarations.

```
a) float *ptr;      c) short *ptr1,*ptr2;
b) int ptr*;        d) *double ptr;
```

Choose the correct declaration(s)

```
i)   a and b
ii)  a and c
iii) a and  d
iv)  a only
```

Scoring Indicators

ii) a and c Score : 1

Time : 2 mts

Learning Outcomes

- 1.5, Explains the concept of pointers and uses pointer with the operator & and *.

Q. 10 The *address of* operator(&) is used for _____.

a) Obtaining R-Value of a variable

b) Obtaining L-Value of a variable

c) Obtaining content of a variable

d) None of these

Scoring Indicators

b) obtaining L-Value of a variable

Score : 1

Time : 2 mts

Learning Outcomes

- 1.5, Explains the concept of pointers and uses pointer with the operator & and *.

Q. 11 Differentiate static and dynamic memory allocation.

Scoring Indicators

Memory allocation before program execution is called static.
Memory allocation during program execution is called dynamic.

Score : 2

Time : 4 mts

Learning Outcomes

- 1.5, Explains the concept of pointers and uses pointer with the operator & and *.

Q. 12 Match the following:

A	B
a) dereference operator	i) new
b) address of operator	ii) .
c) used for accessing structure member	iii) *
d) dynamic memory allocation operator	iv) &

Scoring Indicators

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

Score : 2

Time : 4 mts

Learning Outcomes

- 1.6, Compares the two types of memory allocation and uses dynamic operators *new* and *delete*.

Q. 13 If a memory allocated using the dynamic memory allocation operator *new,* is not deallocated using the operator *delete,* a problem is occurred. Name that problem.

Scoring Indicators

Memory leak

Score : 1

Time : 2 mts

Learning Outcomes

- 1.6, Compares the two types of memory allocation and uses dynamic operators *new* and *delete*.

Q. 14 There is no chance of memory leak in static memory allocation". Say True/ False. Justify.

Scoring Indicators

The operating system takes the responsibility of memory allocation and deallocation without users instruction.

Score : 2

Time : 3 mts

Learning Outcomes

- 1.5, Explains the concept of pointers and uses pointer with the operator & and *.

Q. 15 Write a C++ code segment to declare an integer pointer variable named *p* and store the address of an integer variable *n* in to the pointer variable *p*.

Scoring Indicators

```
int *p,n;

p=&n;
```

Score : 2

Time : 4 mts

Learning Outcomes

- 1.7, Illustrates the operations on pointers and predict the outputs.

Q. 16 Consider the following code segment in C++. If a is stored at memory location 4020 and size of int is 4, then predict the output.

```
int *x, a;

x=&a;

cout<<x++<<"\n";

cout<<++x;
```

Scoring Indicators

4020
4028

Score : 2

Time : 3 mts

Learning Outcomes

- 1.8, Establishes the relationship between pointers and array.

Q. 17 Consider the following array initialisation.

```
int   ar[5]={-2,-4,-6,2,4};
```

If first element of array is stored at 2050 and size of int is 4, find the output of the following.

a)
```
cout<<*ar+*(ar+3);
```

b)
```
cout<<ar+*(ar+4);
```

Scoring Indicators

a) 0
b) 2066

Score : 3

Time : 5 mts

Learning Outcomes

- 1.6, Compares the two types of memory allocation and uses dynamic operators *new* and *delete*.

Q. 18 Write a program in C++ to read marks of n students and calculate total and average mark obtained by the n students. Use dynamic array for storing marks of n students.

Scoring Indicators

dynamic array declaration score - 1
array reading score - 1
correct program logic score - 3

Score : 5

Time : 9 mts

Learning Outcomes

- 1.9, Uses pointers to handle strings.

Q. 19 Write a program in C++ to copy one string to another without using strcpy() function.

Scoring Indicators

Use of character pointer variable score - 1
Correct program logic

Score : 3

Time : 6 mts

Learning Outcomes

- 1.5, 1.10, Explains the concept of pointers and uses pointer with the operator & and *, Explains the concept of self-referential structure.

Q. 20 Choose the operator which is not associated with a pointer variable.

a) * b) . c) & d) ->

Scoring Indicators

b) . [. is associated with accessing structure element] Score : 1

Time : 2 mts

Learning Outcomes

- 1.10, Explains the concept of self-referential structure.

Q. 21 The arrow (->) operator is used for accessing

a) structure element using structure variable.

b) structure element using a structure name.

c) structure element using structure pointer variable.

d) structure element using structure tag.

Scoring Indicators

c) Accessing structure element using structure pointer variable Score : 1

Time : 2 mts

Learning Outcomes

- 1.9, Uses pointers to handle strings.

Q. 22 Write a C++ statement to declare an array, using character pointer variable, which can store names of 60 students in a class.

Scoring Indicators

```
char *name[60];
```

Score : 1

Time : 2 mts

Learning Outcomes

- 1.10, Explains the concept of self-referential structure.

Q. 23 Read the following statements.

i) A structure which contains another structure is called self referential structure.

ii) A structure which contains pointer to another structure is called self referential structure

iii) A structure which contains another structure is called nested structure.

iv) A structure which contains pointer to same structure is called self referential structure.

Now, choose the correct option from the following.

a) statements (i) and (ii) are true

b) statements (i) and (iii) are correct

c) statements (ii) and (iii) are correct

d) statements (iii) and (iv) are correct

Scoring Indicators

d) statements (iii) and (iv) are correct — Score : 1

Time : 2 mts

Learning Outcomes

- 1..4, Develops C++ programs using structure data types to solve real life problems.

Q. 24 Write a C++ program to read details of 10 employees the details include employee code, employee name and basic pay. Calculate DA for each employee as 25% of basic pay, total salary as the sum of basic pay and DA and display the details of all the ten employees including DA and total salary.

Scoring Indicators

Declaration of structure to represent an employee score - 2
Declaration of array of structure variable score - 1
Correct program logic score - 2 — Score : 5

Time : 10 mts

Learning Outcomes

- 1.1, Identifies the need of user defined data types and uses structure to represent grouped data.

Q. 25 Structure is a _____ data type.

Fill up the blank by choosing correct option from the following.

a. Fundamental

b. Derived

c. User defined

d. Built in

Scoring Indicators

c.User defined — Score : 1

Time : 2 mts

Learning Outcomes

- 1.3, Uses nested structure to represent data consisting of elementary data items and grouped data items.

Q. 26 Define a structure to represent employee details. Employee details are employee code, employee name, date of joining and place of employee.

Scoring Indicators

Definition of a nested structure with appropriate data type for each elements Score : 3

Time : 5 mts

Learning Outcomes

- 1.5, Explains the concept of pointers and uses pointer with the operator & and *.

Q. 27 Consider the following C++ program code to store address of an integer variable *a* into a pointer variable *p*

```
int a=5,*p;
p=a;
cout<<p;
```

Identify the error in the above program segment and correct the error.

Scoring Indicators

p=a; Pointer variable can store only address
correct code is p=&a; Score : 2

Time : 4 mts

Learning Outcomes

- 1.5, Explains the concept of pointers and uses pointer with the operator & and *.

Q. 28 Correct the program code given below:

```
int a=5;
float *p;
p=&a;
cout<<p;
```

Scoring Indicators

```
float *p; is to be corrected as int *p;
                or
int a=5; is to be corrected as float a=5;
```

Score : 1

Time : 2 mts

Learning Outcomes

- 1.2, Creates structure data types and accesses elements to refer to the data items.

Q. 29 Calculate the memory requirement for the following structure variable s1.

[Consider the size of int =4,char =1 and float =4]

```
struct  student
     {
     int rno;
     char name[25];
     float height;
     }s1;
```

Scoring Indicators

33 bytes — Score : 1

Time : 2 mts

Learning Outcomes

- 1.3, Uses nested structure to represent data consisting of elementary data items and grouped data items.

Q. 30 Explain the type of structure defined below and calculate the number of bytes required to store the structure variable s1. [Consider the size of int as 4 bytes and char as 1 byte]

```
struct student
{
     int rno,mark;
     char name[25];
     struct date
     {
          int dd,mm,yy;
     }doj;
}s1;
```

Scoring Indicators

Definition of Nested structure.

Number of byte required is 45bytes. [4(rno)+4(mark)+25(name)+12(doj)] — Score : 3

Time : 6 mts

Learning Outcomes

- 1.2, Creates structure data types and accesses elements to refer to the data items.

Q. 31 Write the declaration statement of a student structure variable named 's' which is initialized with admission number 19, name as 'aysha' and mark as 75.

Scoring Indicators

```
student  s={19,"aysha",75};
```

Score : 2

Time : 4 mts

Learning Outcomes

- 1.6, Compares the two types of memory allocation and uses dynamic operators *new* and *delete*.

Q. 32 Write C++ statement for the following.

i) To declare an integer variable named 'x' using new operator.

ii) To initialize the integer pointer variable x with value 5.

iii) To declare a dynamic array of ten integers named x.

Scoring Indicators

i) `int *x=new int;`

ii) `int  *x=new  int(5);`

iii) `int *x=new int[10];`

Score : 3

Time : 6 mts

Learning Outcomes

- 1.10, Explains the concept of self-referential structure.

Q. 33 "Self referential structure can be used for implementing linked list". Justify the statement.

Scoring Indicators

Correct justification/Self referential structure contains a pointer to itself. Score : 2

Time : 4 mts

Learning Outcomes

- 1.4, Develops C++ programs using structure data types to solve real life problems.

Q. 34 Write a program to read admission no, name, mark1, mark2 and mark3 of students in a class room . Then calculate total, average and grade obtained by each student[average >= 90 then grade is A+ average >=80 then grade is A and so on.]. Then display admno, name and grade of all the students.

Scoring Indicators

Structure definition (score-2)
Declaration of array of structure variable (score-1)
Correct program logic (score-2) Score : 5

Time : 10 mts

Learning Outcomes

- 1.8, Establishes the relationship between pointers and array.

Q. 35 Consider the array declaration. Assume that the first element of array is stored in 2020 location.

```
int  a[]={2,5,8,9,4},*p1,*p2;

p1=a;

p2=&a[0];

cout<<p1<<"\t"<<p2;
```

Predict the output and justify.

Scoring Indicators

2020 2020 (score-1)
Array name itself is a pointer which stores address of first element of an array. (score-1)

Score : 2

Time : 4 mts

Learning Outcomes

- 1.10, Explains the concept of self-referential structure.

Q. 36 "The dot(.) operator cannot be used for accessing structure member by using structure pointer variable " Say True or False. Justify your answer.

Scoring Indicators

False
Arrow (->) operator is used for accessing structure member by using structure pointer variable.

Score : 2

Time : 4 mts

Unit 2

CONCEPTS OF OBJECT ORIENTED PROGRAMMING

Learning Outcomes

- 2.1, Compares various programming paradigms.

Q. 1 Which of the following is not a programming paradigm?

a. Object oriented
b. Procedure oriented
c. Both a and b
d. Standard

Scoring Indicators

d. Standard

Score : 1

Time : 2 mts

Learning Outcomes

- 2.1, Compares various programming paradigms.

Q. 2 In programming, modules are composed of _____.

a. data types
b. functions
c. statements
d. programs

Scoring Indicators

b. functions

Score : 1

Time : 2 mts

Learning Outcomes

- 2.2, Lists the features of procedure oriented paradigm.

Q. 3 Write four reasons for the increasing complexity of procedural programming.

Scoring Indicators

½ score for each reason

Score : 2

Time : 5 mts

Learning Outcomes

- 2.3, Lists the advantages of object oriented paradigm.

Q. 4 List the advantages of Object Oriented Programming.

Scoring Indicators

½ score for each advantage

Score : 2

Time : 6 mts

Learning Outcomes

- 2.4, Explains the concepts of data abstraction and encapsulation, citing examples.

Q. 5 Identify a suitable attribute from 2nd column and an associated behaviour from 3rd column for each object in 1st column.

Object	Attribute	Behaviour
(i) Student	a. Legs	1. Conducting examination
(ii) Fruit	b. Admission number	2. Carrying a platform
(iii) Furniture	c. Speed	3. Ripening
	d. Colour	4. Scoring mark

Scoring Indicators

(i) → b → 4 (ii) → d → 3 (iii) → a → 2 (1 + 1 + 1 = 3 score) Score : 3

Time : 6 mts

Learning Outcomes

- 2.4, Explains the concepts of data abstraction and encapsulation, citing examples.

Q. 6 Distinguish class and object with the help of examples.

Scoring Indicators

Proper example – 1 score; distinguishing the terms with respect to the example – 2 score.

Score : 3

Time : 6 mts

Learning Outcomes

- 2.4, Explains the concepts of data abstraction and encapsulation, citing examples.

Q. 7 When we switch on the computer, booting takes place. We do not know what all things are happening inside. Identify the OOP concept that resembles with this scenario. Give another situation that resembles with this concept.

Scoring Indicators

Data abstraction – 1 score; For a proper situation – 1 score.

Score : 2

Time : 4 mts

Learning Outcomes

- 2.4, Explains the concepts of data abstraction and encapsulation, citing examples.

Q. 8 Which of the following members of a C++ class data type are hidden from accessing?

a. Private and protected members b. Private and public members

c. Public and protected members d. Private, public and protected members

Scoring Indicators

a. private and protected members

Score : 1

Time : 2 mts

Learning Outcomes

- 2.4, Explains the concepts of data abstraction and encapsulation, citing examples.

Q. 9 "*School kalolsavam*" is organised with the help of various committees. Each committee is assigned with a specific task. Identify the OOP concept that is analogous to this situation. Give another real life case that resembles with this concept.

Scoring Indicators

Modularity – 1 score; For a proper situation – 1 score. Score : 2

Time : 4 mts

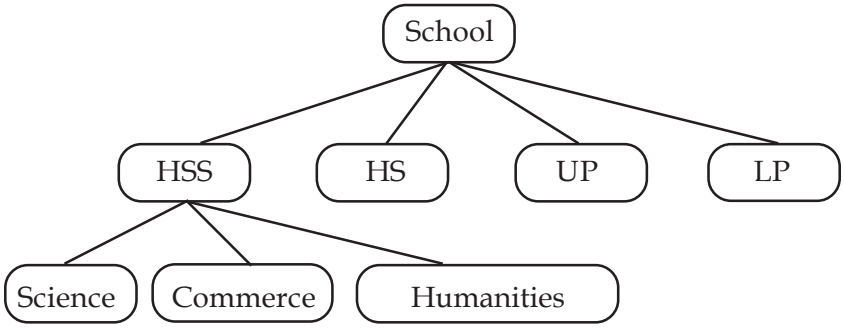
Learning Outcomes

- 2.5, Explains inheritance and polymorphism with the help of real life examples.

Q. 10 Look at the following figure:

(a) Identify the OOP concept shown by the figure.

(b) Write short note about this concept.



Scoring Indicators

(a) Inheritance – 1 score
(b) Definition, Base class, Derived class – 1 + 1 + 1 = 3 score.

Score : 1
Time : 10 mts

Learning Outcomes

- 2.5, Explains inheritance and polymorphism with the help of real life examples.

Q. 11 Explain how operator overloading implements polymorphism.

Scoring Indicators

Definition of polymorphism – 1 score, Illustrating different operations performed by any operator. – 2 score

Score : 1
Time : 6 mts

Learning Outcomes

- 2.5, Explains inheritance and polymorphism with the help of real life examples.

Q. 12 The following function prototypes implement an OOP concept. Identify the concept and explain it.

```
int func(int);
float  func(float,  int);
```

Scoring Indicators

Polymorphism – 1 score; Explanation – 1 score

Score : 1
Time : 4 mts

Unit 3

DATA STRUCTURES AND OPERATIONS

Learning Outcomes

- 3.1, Explains the concept of data structure by citing examples.

Q. 1 The data structure in which elements are arranged in non-sequence is named as _____ type of data structure.

a. Heterogeneous data structure

b. Synthetic data structure

c. Linear data structure

d. Non-linear data structure

Scoring Indicators

c

Score : 1

Time : 2 mts

Learning Outcomes

- 3.2, Classifies data structures based on different criteria.

Q. 2 Consider the following two statements.

i. Memory of size dynamic data structures can be changed during execution.

ii. Static data structures are associated with primary memory

a. Statement (i) and statement (ii) are not true

b. Statement (i) is true and statement (ii) is false

c. Statement (i) is false and statement (ii) is true

d. Statement (i) and statement (ii) are false

Scoring Indicators

a

Score : 1

Time : 2 mts

Learning Outcomes

- 3.2, Classifies data structures based on different criteria.

Q. 3 _____ is a data structure in which items are added at one end and removed from the other.

A) Stack

B) Queue

C) List

D) None of the above

Scoring Indicators

B

Score : 1

Time : 2 mts

Learning Outcomes

- 3.3, Lists different operations on data structures and explains them.

Q. 4 _____ is very useful in situation when data have to be stored and then retrieved in reverse order.

A) Stack

B) Queue

C) List

D) Link list

Scoring Indicators

A

Score : 1

Time : 2 mts

Learning Outcomes

- 3.5, Develops algorithms for push and pop operations in a stack.

Q. 5 Which of the following data structure is linear type?

A) Graph

B) Trees

C) Binary tree

D) Stack

Scoring Indicators

D

Score : 1

Time : 2 mts

Learning Outcomes

- 3.4, Explains the organisation of stack data structure with the help of examples.

Q. 6 Combining the elements of two sorted data structures to form a new one is reffered as

a. Merging

b. Sorting

c. Traversal

d. Searching

Scoring Indicators

a Score : 1

Time : 2 mts

Learning Outcomes

- 3.4, 3.5, Explains the organisation of stack data structure with the help of examples, Develops algorithms for push and pop operations in a stack.

Q. 7 Which term is applicable with stack data structure?

a. LILO

b. FILO

c. LIFO

d. FIFO

Scoring Indicators

c Score : 1

Time : 2 mts

Learning Outcomes

- 3.6, Explains the organisation of queue data structure with the help of examples.

Q. 8 Placing glasses one above another can be considered similar to _____ data structure.

a. Queue

b. Stack

c. Record

d. Graph

Scoring Indicators

b Score : 1

Time : 2 mts

Learning Outcomes

- 3.5, 3.6, Develops algorithms for push and pop operations in a stack, Explains the organisation of queue data structure with the help of examples.

Q. 9 Each node containing data and a pointer to the next node is applicable with _____ data structure.

a. Array

b. Linked List

c. Stack

d. Queue

Scoring Indicators

b

Score : 1

Time : 2 mts

Learning Outcomes

- 3.7, Develops algorithms for insertion and deletion operations in a linear queue.

Q. 10 Identify and correct mistake in the following Stack - PUSH algorithm.

```
start
if stack is full
return null
endif
top = top - 1
stack[top] = data
stop
```

Scoring Indicators

```
top = top - 1 is to be replaced by top = top + 1
```

Score : 2

Time : 4 mts

Learning Outcomes

- 3.7, Develops algorithms for insertion and deletion operations in a linear queue.

Q. 11 Write the steps for inserting a new element to a queue.

Scoring Indicators

Correct Steps

Score : 2

Time : 4 mts

Learning Outcomes

- 3.7, Develops algorithms for insertion and deletion operations in a linear queue.

Q. 12 Write the steps for deleting an element from a queue.

Scoring Indicators

Correct Steps

Score : 2

Time : 4 mts

Learning Outcomes

- 3.8, Identifies the advantage of circular queue over linear queue.

Q. 13 Write the steps for deleting the beginning node from a linked list.

Scoring Indicators

Correct Steps

Score : 2

Time : 4 mts

Learning Outcomes

- 3.8, Identifies the advantage of circular queue over linear queue.

Q. 14 A linked list containing all the name of students in your class is to be created.Write its C++ structure to define the node.

Scoring Indicators

```
struct node
{
char name[15];
node *link;
}
```

Score : 2

Time : 4 mts

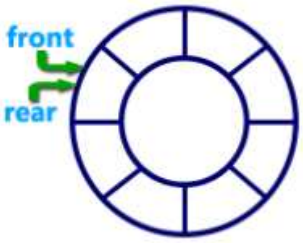
Learning Outcomes

- 3.8, Identifies the advantage of circular queue over linear queue.

Q. 15 Write a short note about circular queue.

Scoring Indicators

Definition: Circular Queue is a linear data structure in which the operations are performed based on FIFO (First In First Out) principle and the last position is connected back to the first position to make a circle.



Score : 3

Time : 6 mts

Learning Outcomes

- 3.7, Develops algorithms for insertion and deletion operations in a linear queue.

Q. 16 Draw the diagrams of nodes when a new node is inserting into a linked list with suitable comments with each diagram.

Scoring Indicators

Exact diagrams with necessary explanations — Score : 5

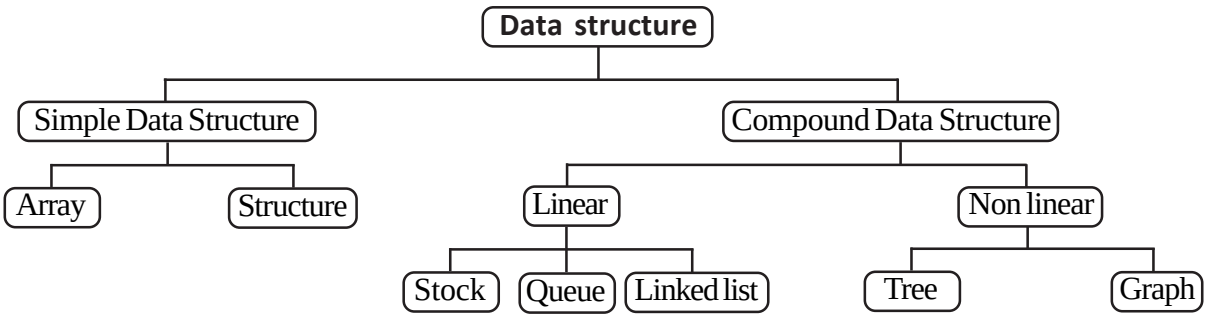
Time : 10 mts

Learning Outcomes

- 3.6, Explains the organisation of queue data structure with the help of examples.

Q. 17 With suitable diagrams and notes, Explain the different classifications of data structures.

Scoring Indicators



Explanations about ANY FIVE of the above in atleast 2 - 3 sentences. Score : 5

Time : 10 mts

Learning Outcomes

- 3.6, Explains the organisation of queue data structure with the help of examples.

Q. 18 Prepare a short note about all the operations associated with data structures.

Scoring Indicators

Answer

a. Traversal
b. Searching
c. Inserting
d. Deleting
e. Sorting
f. Merging

Explanations about each of the above in at least 3-4 sentenses.

Score : 5

Time : 10 mts

Unit 4

WEB TECHNOLOGY

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.

a. Client side b. Server side

c. Both client side and server side d. 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.

a. Write whether it is client side or server side.

b. Write a brief note on PHP.

Scoring Indicators

a. Server side – 1 Score

b. 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 criterian for the categorisation.

, <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

a. Text is an attribute of <BODY> tag to insert a text matter in the web page.

b. <EM> tag functions similar to <I> tag.

Scoring Indicators

a. False
b. 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.

a. <IMG src="kerala.jpg">
b. <BODY src="kerala.jpg">
c. <BODY bgcolor="kerala.jpg">
d. <BODY background="kerala.jpg">

Scoring Indicators

d. <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. A₂ B³

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".

a. Identify the tag needed for it.

b. 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:

KERALA STATE

God's Own Country

Capital: Thiruvananthapuram

The specifications for the page are:

a. The main heading must be of bigger in size, centralised and bold.

b. Sub headings must be lesser size than main heading and in italics.

c. There should be a picture at the center of the page with file name "tree.jpg".

d. The background colour of the page must me 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:

a. The background colour must be green

b. There must be centralised heading **AVOID SMOKING** with bigger size and bold.

c. 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

Unit 5

WEB DESIGNING USING HTML

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 ingradients
    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:

A. <OL>and <UL> have Type attribute

B. Default numbering scheme in <OL> is 1, 2, 3…

C. In Definition List, <DD> tag is used to give definition of terms

D. 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">
    <Li> Chocolate</Li>
    <Li> Milk</Li>
    <Li> Coffee</Li>
</OL>
```

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	**DOMESTIC**
BEAR, TIGER	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=raw2

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

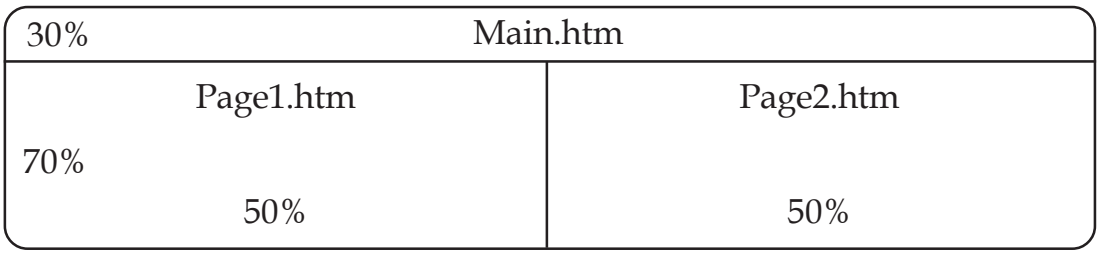
Score : 2

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.

A. Name any two attributes of FORM tag.

B. How will you create a "SUBMIT" button and a "RESET" button with in the FORM tag?

Scoring Indicators

A. Action, Method etc - Score 1
B. <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.

A. Write any two other attributes of <INPUT> tag.

B. Mention any two values of Type attribute and explain its use in the form.

Scoring Indicators

A. Name, Value etc ½ score each
B. 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

Unit 6

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) bothe ii & iii are correct.

d) all the three stateents are correct.

Scoring Indicators

option (d) - 1 score

Score : 1

Time : 2 mts

Learning Outcomes

- 6.1, Distinguishes the use of client side and sever 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<br>”);
            }
       </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(“<BR>”)
               }
          }
      </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 progam 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  languge  =  "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

Unit

7 WEB HOSTING

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?

a. It shares server with other websites.

b. It is usually inexpensive.

c. It does not guarantee performance.

d. 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.

a. Website for a medical shop in your city.

b. Website for Public Service Commission (PSC) of Kerala.

c. Website for an online shopping facility.

Scoring Indicators

a. Shared hosting

b. Dedicated/VPS

c. 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.

a. List some of the limitations that Merin will face regarding the hosting space for website.

b. How will she provide a domain name for the website?

Scoring Indicators

a. 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)

b. 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.

a. Name the concept used for this.

b. List and explain the technologies used for implementing this concept.

Scoring Indicators

a. Responsive Web Design – 1 score
b. 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.

a. Name the software that will help her to transfer her files from her computer to the web server.

b. List the requirements in that software that are necessary to connect to the web server.

Scoring Indicators

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

Score : 3

Time : 3 mts

Unit

8 DATABASE MANAGEMENT SYSTEM

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 x ½ = 2½ score

For connecting with given situation – 5 x ½ = 2½ 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?

(a) Data redundancy

(b) Data inconsistency

(c) Data integrity

(d) 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?

1) Design the conceptual schema of the database.

2) Develops programs to interact with the database.

3) Interacts with the database through queries.

4) 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.

(½ + ½ = 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]

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

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 *(½ + ½ = 1 score)*

(c) {M, F} *(1 score)*

(d) $_{Gender='F'}(STUDENT)$

(Correct symbol – ½ score, condition – 1 score, table specification – ½ 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 T2 is 13, then what is the cardinality of T1 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 B) and (A B) ?

What will be the minimum possible cardinality of (A B) and (A B) ?

Give justification for your answers.

Scoring Indicators

Maximum possible cardinality of (A B) is 18.
Maximum possible cardinality of (A B) is 8.
Minimum possible cardinality of (A B) is 10
Minimum possible cardinality of (A B) is 0.
(Results – 4 x ½ = 2 score; Justification – 4 x 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 1st column find the best matches from 2nd and 3rd 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 (½ + ½) each for correct 2 matches for each item in 1st column. If the item from either 2nd or 3rd column does not match for an operation, reduce ½ 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) $\sigma_{\text{Publisher= 'BPB'}}$ (BOOK)

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

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

Unit 9

STRUCTURED QUERY LANGUAGE

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 – ½ x 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

Scoring Indicators

(b) DESC - 1 score

Score : 1

Time : 2 mts

Learning Outcomes

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

Q. 9 The command to eliminate the table CUSTOMER from a database is:

a) REMOVE TABLE CUSTOMER b) DROP TABLE CUSTOMER

c) DELETE TABLE CUSTOMER d) UPDATE TABLE CUSTOMER

Scoring Indicators

(b) DROP TABLE CUSTOMER - 1 score

Score : 1

Time : 2 mts

Learning Outcomes

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

Q. 10 Which SQL command is used to open a database?

(a) OPEN (b) SHOW

(c) USE (d) CREATE

Scoring Indicators

(c) USE

Score : 1

Time : 2 mts

Learning Outcomes

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

Q. 11 Assume that CUSTOMER is a table with columns Cust_code, Cust_name, Mob_No and Email. Write an SQL statement to add the details of a customer who has no e-mail id.

Scoring Indicators

Command part – ½ score, Clause part – ½ score,
Concept of NULL and other values – 1 score

Score : 2

Time : 4 mts

Learning Outcomes

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

Q. 12 Find the correct clause from the 2nd column for each SQL command in the 1st 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 - 1score 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.

a) SELECT ITEMCODE, NAME FROM ITEMS WHERE CATEGORY = 'Stationery';

b) SELECT * FROM ITEMS WHERE SALES_PRICE < UNIT_PRICE;

c) 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 – ½ + ½ = 1 score; Proper grouping – 1 score

Score : 3

Time : 2 mts

Unit

10

SERVER SIDE SCRIPTING USING PHP

Learning Outcomes

- 10.1, Lists the benefits of using PHP.

Q. 1 PHP files have a default file extension of _____.

a) .html

b) .xml

c) .php

d) .ph

Scoring Indicators

c

Score : 1

Time : 2 mts

Learning Outcomes

- 10.2, Explains the syntax of PHP code.

Q. 2 A PHP script should start with _____.

a) <php>

b) <?php ?>

c) <?php >

d) <?php ?>

Scoring Indicators

c

Score : 1

Time : 2 mts

Learning Outcomes

- 10.3, Illustrates various data types and operators used in PHP.

Q. 3 We can use _____ to provide multiline comments.

i) /?

ii) //

iii) #

iv) /**/

Scoring Indicators

iv. /* */ Score : 1

Time : 2 mts

Learning Outcomes

- 10.3, Illustrates various data types and operators used in PHP.

Q. 4 Which of the following php statement/statements will store 111 in variable num?

i) int $num = 111;

ii) int num = 111;

iii) $num = 111;

iv) 111 = $num;

a) Both i) and ii)

b) All of the mentioned.

c) Only iii)

d) Only i)

Scoring Indicators

c Score : 1

Time : 2 mts

Learning Outcomes

- 10.4, Constructs code from algorithm using control and looping structures in PHP.

Q. 5 What will be the output of the following php code?

```
<?php
$num  = 1;
$num1 = 2;
print $num . "+". $num1;
?>
```

a) 3

b) 1+2

c) 1.+.2

d) Error

Scoring Indicators

b Score : 1

Time : 2 mts

Learning Outcomes

- 10.4, Constructs code from algorithm using control and looping structures in PHP.

Q. 6 Which of the following PHP statements will output Hello World on the screen?

i) echo ("Hello World");

ii) print ("Hello World");

iii) cout("Hello World");

iv) sprintf ("Hello World");

a) i) and ii)

b) i), ii) and iii)

c) All of the mentioned

d) i), ii) and iv)

Scoring Indicators

a

Score : 1

Time : 2 mts

Learning Outcomes

- 10.4, 10.5, Constructs code from algorithm using control and looping structures in PHP, Identifies the difference and use of different types of array.

Q. 7 What will be the output of the following PHP code?

```
<?php
$total = 25;
 $more = 10;
$total = $total + $more;
echo "$total";
?>
```

a) Error

b) 35 students

c) 35

d) 25 students

Scoring Indicators

c

Score : 1

Time : 2 mts

Learning Outcomes

- 10.5, Identifies the difference and use of different types of array.

Q. 8 Which statement will output $x on the screen?

a) `echo "\$x";`

b) `echo "$$x";`

c) `echo "/$x";`

d) `echo "$x;";`

Scoring Indicators

a

Score : 1

Time : 2 mts

Learning Outcomes

- 10.6, Designs PHP functions for common tasks.

Q. 9 What will be the output of the following PHP code?

```
<?php
$a = "clue";
$a .= "get";
echo "$a";
?>
```

a) `get`

b) `true`

c) `false`

d) `clueget`

Scoring Indicators

d

Score : 1

Time : 2 mts

Learning Outcomes

- 10.6, Designs PHP functions for common tasks.

Q. 10 PHP's numerically indexed array begin with position _____.

a) 1

b) 2

c) 0

d) -1

Scoring Indicators

c

Score : 1

Time : 2 mts

Learning Outcomes

- 10.7, Describes the client server environment.

Q. 11 What will be the output of the following PHP code ?

```
<?php
$a = 10;
echo ++$a;
echo $a++;
echo $a;
echo ++$a;
?>
```

a) 11111213

b) 11121213

c) 11111212

d) 11111112

Scoring Indicators

a

Score : 1

Time : 2 mts

Learning Outcomes

- 10.8, Selects the appropriate data submitting methods for different scenarios.

Q. 12 What will be the output of the following PHP code ?

```
<?php
$x = "test";
$y = "this";
$z = "also";
$x .= $y .= $z ;
echo $x;
echo $y;
?>
```

a) testthisthisalso

b) testthis

c) testthisalsothisalso

d) error at line 4

Scoring Indicators

c

Score : 1

Time : 2 mts

Learning Outcomes

- 10.8, Selects the appropriate data submitting methods for different scenarios.

Q. 13 What will be the output of the following PHP code ?

```
<?php
$y = 2;
if ($y-- == ++$y)
{
   echo $y;
}
?>
```

a) 2

b) 1

c) 3

d) no output

Scoring Indicators

a

Score : 1

Time : 2 mts

Learning Outcomes

- 10.7, Describes the client server environment.

Q. 14 What will be the output of the following PHP code ?

```
<?php
echo $x-- != ++$x;
?>
```

a) 1

b) 0

c) error

d) no output

Scoring Indicators

a

Score : 1

Time : 2 mts

Learning Outcomes

- 10.7, Describes the client server environment.

Q. 15 A special type of array which is not supported by C++ is used in PHP. Can you describe the features of that array with example?

Scoring Indicators

Answer Associative Array. They are arrays that use named keys that we assign to them.

Eg:

```
<?php

$capitals=array("India"=>"New Delhi",
"China"=>"Beijing",

"Pakistan"=>"Islamabad");

?>
```

Score : 2

Time : 4 mts

Learning Outcomes

- 10.8, Selects the appropriate data submitting methods for different scenarios.

Q. 16 List Superglobals used in PHP.

Scoring Indicators

`$_REQUEST, $_GET, $_POST and $_COOKIE`

Score : 2

Time : 4 mts

Learning Outcomes

- 10.8, 10.9, Selects the appropriate data submitting methods for different scenarios, Identifies the role of database connectivity in the creation of dynamic webpages.

Q. 17 Name the PHP functions we use

A) to find the length of a string

B) for comparing two strings

Scoring Indicators

A) `strlen()`

B) `strcmp()`

Score : 2

Time : 4 mts

Learning Outcomes

- 10.2, Explains the syntax of PHP code.

Q. 18 What is the main difference between JavaScript and PHP?

Scoring Indicators

Javascript is a client side scripting language whereas PHP is a server side scripting language.

Score : 2

Time : 4 mts

Learning Outcomes

- 10.4, Constructs code from algorithm using control and looping structures in PHP.

Q. 19 Compare echo and print statements used in PHP.

Scoring Indicators

Both are used to output strings. The speed of both statements is almost the same.
echo() can take multiple expressions whereas print cannot take multiple expressions.
Print return true or false based on success or failure whereas echo doesn't return true or false.

Score : 2

Time : 4 mts

Learning Outcomes

- 10.8, Selects the appropriate data submitting methods for different scenarios.

Q. 20 Write the steps that are used to connect PHP with MySQL.

Scoring Indicators

Correct Steps

Score : 2

Time : 4 mts

Learning Outcomes

- 10.8, Selects the appropriate data submitting methods for different scenarios.

Q. 21 What are the additional steps involved to run PHP in your computer?

Scoring Indicators

1. Set up the web environment. (Install a web browser)
2. Set up the web servers. (Install WAMP or LAMP or XAMP)
3. Install a Code Editor for typing Program Code of PHP. (Install Geany or Notepad++ or Programmer's Notepad etc)
4. Type and Save the Document in the directory specified by the Web Server. (Save in htdoc or www directory)
5. Open the document in Web Browser (Open in Internet Explorer or Mozilla or Google Chrome)

Score : 3

Time : 6 mts

Learning Outcomes

- 10.8, Selects the appropriate data submitting methods for different scenarios.

Q. 22 List the main differences between GET and POST methods in form submitting?

Scoring Indicators

On the server side, the main difference between GET and POST is where the submitted is stored. The $_GET array stores data submitted by the GET method. The $_POST array stores data submitted by the POST method.

On the browser side, the difference is that data submitted by the GET method will be displayed in the browser's address field. Data submitted by the POST method will not be displayed anywhere on the browser.

GET method is mostly used for submitting a small amount and less sensitive data.

POST method is mostly used for submitting a large amount or sensitive data.

Score : 3

Time : 6 mts

Learning Outcomes

- 10.4, Constructs code from algorithm using control and looping structures in PHP.

Q. 23 What will be the output of the PHP code segment given below and why?

```
$x = 5;
echo $x-- -$x--;
echo $x;
```

Scoring Indicators

1 (2 score)

Proper reason - 1 score

Score : 3

Time : 6 mts

Learning Outcomes

- 10.5, Identifies the difference and use of different types of array.

Q. 24 Describe different types of arrays used in PHP.

Scoring Indicators

1. Numeric Array
2. Associative Array
3. Multidimensional Array

½ score listing each type. (½ +½ +½ = 1½)

½ score for correct description. (½ +½ +½ = 1½)

Score : 3

Time : 6 mts

Unit 11

ADVANCES IN COMPUTING

Learning Outcomes

- 11.1, Identifies different distributed computing paradigms.

Q. 1 Which among the following are true regarding distributed computing?

i. Different parts of a program are run simultaneously on two or more computers.

ii. Distributed systems fail even if one node fails to function.

iii. A lot of extra programming is required to set up a distributed system.

iv. All the different processors share memory.

a. i & ii are correct
b. iii & iv are correct
c. i & iii are correct
d. ii & iv are correct

Scoring Indicators

i & iii are correct

Score : 1

Time : 1 mt

Learning Outcomes

- 11.1, Identifies different distributed computing paradigms.

Q. 2 Consider the following statements about distributed computing and state True/False.

a. In distributed computing, parts of a program are run simultaneously from two or more computers which are communicating with each other.

b. WWW is an example for large distributed computing.

Scoring Indicators

a. True b. True - ½ score each

Score : 1

Time : 1 mt

Learning Outcomes

- 11.1, Identifies different distributed computing paradigms.

Q. 3 The distributed computing method has some advantages and disadvantages. What are they?

Scoring Indicators

List of advantages and disadvantages – 1 score each

Score : 2

Time : 2 mts

Learning Outcomes

- 11.2, Compares serial computing and parallel computing.

Q. 4 Parallel computing is faster than serial computing. Mention the limitations in implementing parallel computing.

Scoring Indicators

Complex programming required, to copy a program to different machines significant changes to the program are required – 1 score each

Score : 2

Time : 2 mts

Learning Outcomes

- 11.3, Recognizes the need of grid computing.

Q. 5 _____ computing provides users access to computational power just like electricity through wall sockets.

a. Parallel b. Grid

c. Cluster d. Serial

Scoring Indicators

Grid – 1 score

Score : 1

Time : 1 mt

Learning Outcomes

- 11.3, Recognizes the need of grid computing.

Q. 6 What is cluster computing? Write its advantages and disadvantages.

Scoring Indicators

Cluster computing is a form of computing in which a group of personal computers, storage devices, etc. are linked together so that they can work like a single computer – 1 score
Advantages -1 score; disadvantage – 1 score

Score : 3

Time : 2 mts

Learning Outcomes

- 11.4, Identifies cluster computing techniques.

Q. 7 Question Text:

State whether the following statements are true or false.

a. Clusters provide computational power through parallel processing.

b. Even if any one of the computers fails, cluster computing as a whole will work.

Scoring Indicators

a. True – 1 score
b. True – 1 score

Score : 2

Time : 1 mt

Learning Outcomes

- 11.5, Analyses the need of cloud computing methods.

Q. 8 The following organisations plan to buy cloud computing service for their IT requirements. Suggest the cloud computing model that suits their need.

a. Hari & Co. requires spreadsheet and presentation software.

b. Tomy & Co. requires to install their own software for their accounting needs in a LAMP platform.

c. Raju & Co. requires to use MySQL for their database needs.

d. Joy & Co. requires 1 TB hard disk space, 2 GB RAM and processing power.

Scoring Indicators

a. SaaS
b. PaaS
c. SaaS
d. IaaS – ½ score each

Score : 2

Time : 2 mts

Learning Outcomes

- 11.5, Analyses the need of cloud computing methods.

Q. 9 Question Text:

Pick the odd one out. The services of cloud computing includes:

a. Software as a Service
b. Hardware as a Service
c. Platform as a Service
d. Infrastructure as a Service

Scoring Indicators

b. Hardware as a Service – 1 score

Score : 1

Time : 1 mt

Learning Outcomes

- 11.5, Analyses the need of cloud computing methods.

Q. 10 Which of the following is not a distributed computing paradigm?

a. grid b. cloud

c. cluster d. serial

Scoring Indicators

d. Serial – 1 score

Score : 1

Time : 1 mt

Learning Outcomes

- 11.5, Analyses the need of cloud computing methods.

Q. 11 Most of the companies are opting for cloud computing for their IT requirement. Explain the advantages that they gain from this.

Scoring Indicators

Cost savings, Scalability, reliability, maintenance, can be accessed using mobiles – Any Three
(½ score – Listing & ½ score - explanation)

Score : 3

Time : 4 mts

Learning Outcomes

- 11.5, Analyses the need of cloud computing methods.

Q. 12 Classify the following as SaaS, PaaS and IaaS.

Adobe Creative Cloud, Google App Engine, Microsoft Office 365, Amazon Web Services.

Scoring Indicators

SaaS – Adobe Creative Cloud, Microsoft Office 365
PaaS – Google App Engine
IaaS – Amazon Web Services - ½ score each

Score : 2

Time : 3 mts

Learning Outcomes

- 11.5, Analyses the need of cloud computing methods.

Q. 13 Match the following.

A	B
i. Parallel computing	a. Group of computers and devices are linked together to form a huge com puter.
ii. Grid computing	b. All the different processors have access to shared memory.
iii. Cloud computing	c. Gets computational power just like electricity through wall sockets
iv. Cluster computing	d. Uses Internet and remote servers to maintain data and applications.

Scoring Indicators

i-b, ii-c, iii-d, iv-a - ½ score each

Score : 2

Time : 3 mts

Learning Outcomes

- 11.5, Analyses the need of cloud computing methods.

Q. 14 Explain cloud computing paradigm and its three models of services in detail.

Scoring Indicators

Definition – 2 score; Each model – 1 score each

Score : 5

Time : 4 mts

Learning Outcomes

- 11.5, Analyses the need of cloud computing methods.

Q. 15 Compare grid computing and cloud computing paradigm of distributed computing.

Scoring Indicators

Correct comparison – 1 score each

Score : 3

Time : 4 mts

Learning Outcomes

- 11.6, Explains the role of artificial intelligence in modern computing.

Q. 16 Differentiate the terms intelligence and wisdom.

Scoring Indicators

The ability to draw useful inferences from the available knowledge is generally referred as intelligence. Wisdom is the maturity of mind that directs its intelligence to achieve desirable goals – 1 score each

Score : 2

Time : 2 mts

Learning Outcomes

- 11.6, Explains the role of artificial intelligence in modern computing.

Q. 17 Draw the knowledge pyramid and briefly explain the terms in it.

Scoring Indicators

Figure of knowledge pyramid – 1 score; listing terms – 1score; brief explanation of its terms. – ½ score each

Score : 5

Time : 6 mts

Learning Outcomes

- 11.7, Identifies different computational intelligence paradigms.

Q. 18 The study of control and communication between man and machine is called _____.

Scoring Indicators

Cybernetics – 1 score

Score : 1

Time : 1 mt

Learning Outcomes

- 11.7, Identifies different computational intelligence paradigms.

Q. 19 In Artificial Intelligence, ANN stands for

i. Artificial Network of Neural ii. Advanced Neural Network

iii. Artificial Neural Network iv. Architectural Neural Network

Scoring Indicators

iii. Artificial Neural Network – 1 score

Score : 1

Time : 1 mt

Learning Outcomes

- 11.7, Identifies different computational intelligence paradigms.

Q. 20 Briefly explain the Turing test.

Scoring Indicators

Description of Turing test – 2 score

Score : 2

Time : 3 mts

Learning Outcomes

- 11.7, Identifies different computational intelligence paradigms.

Q. 21 List and explain any three biologically inspired algorithms/paradigms that simulate natural intelligence, which led to the development of intelligent systems.

Scoring Indicators

Artificial Neural Networks (ANN), Evolutionary Computation (EC), Swarm Intelligence (SI) – Any three (1 score each)

Score : 3

Time : 5 mts

Learning Outcomes

- 11.8, Explains applications of computational intelligence.

Q. 22 Which among the following is the capability that is required by a computer to pass Turing Test?

i. Natural Language Processing (NLP)
ii. Knowledge representation
iii. Machine learning
iv. Computer Vision

a. i & ii only
b. i,ii & iii only
b. c. iii & iv only
d. All of the above

Scoring Indicators

d. All of the above - 1 score each

Score : 1

Time : 1 mt

Learning Outcomes

- 11.7, Identifies different computational intelligence paradigms.

Q. 23 Find the suitable match.

A	B
1. Human brain	a. Fuzzy logic
2. Chromosome	b. Swarm Intelligence
3. Ant colony	c. Artificial Neural Networks
4. Approximate reasoning	d. Evolutionary Computation

Scoring Indicators

1 – c
2 – d
3 – b
4 – a ½ score each

Score : 2
Time : 2 mts

Learning Outcomes

- 11.8, Explains applications of computational intelligence.

Q. 24 Find the suitable match.

A	B
1. Bioinformatics	a. data related to various positions on earth's surface
2. Computer vision	b. management of biological information
3. Biometrics	c. construction of meaningful descriptions from 2-dimensional images
4. GIS	d. measurements related to human characteristics

Scoring Indicators

1 – b
2 – c
3 – d
4 – a ½ score each

Score : 2
Time : 2 mts

Learning Outcomes

- 11.8, Explains applications of computational intelligence.

Q. 25 One of the recent developments in Computer Science is the use of computational intelligence in different real life applications. Briefly explain any five areas of application of computational intelligence.

Scoring Indicators

Each application – listing - ½ score; explanation – ½ score

Score : 5

Time : 6 mts

Learning Outcomes

- 11.8, Explains applications of computational intelligence.

Q. 26 Differentiate between Bioinformatics and Biometrics.

Scoring Indicators

Bioinformatics is the application of computer technology for processing biological information. Biometric is the measurement related to human characteristics and traits – 1 score each

Score : 2

Time : 3 mts

Unit

12

ICT AND SOCIETY

Learning Outcomes

- 12.1, Uses the various ICT services like - e-Governance, e-Business and e-Learning.

Q. 1 ICT stands for _____.

a) Internet and Communication Technology

b) Information and Computer Technology

c) Information and Communication Technology

d) Integrated Communication Technology

Scoring Indicators

c) Information and Communication Technology Score : 1

Time : 2 mts

Learning Outcomes

- 12.1, Uses the various ICT services like - e-Governance, e-Business and e-Learning.

Q. 2 Which of the following e-Governance helps citizens for interacting with the Government?

a. G2E b. G2B c. G2C d. G2G

Scoring Indicators

c. G2C Score : 1

Time : 2 mts

Learning Outcomes

- 12.3, Identifies advantages and limitations of e-Governance.

Q. 3 Write any one website for the following services.

a) e - Governance b) e - Business

c) e - Banking d) e - Learning

Scoring Indicators

Listing of one website for each category ½ score each. Score : 1

Time : 2 mts

Learning Outcomes

- 12.1, Uses the various ICT services like - e-Governance, e-Business and e-Learning.

Q. 4 What are the different types of interactions in e-Governance?

Scoring Indicators

SI: G2G, G2E, G2B, G2C (½ score each) Score : 2

Time : 3 mts

Learning Outcomes

- 12.2, Details e-Governance and its infrastructure.

Q. 5 "For the implementation of e-Learning different tools are used". List any four e-Learning tools.

Scoring Indicators

For each ½ score Score : 2

Time : 4 mts

Learning Outcomes

- 12.2, Details e-Governance and its infrastructure.

Q. 6 Write a short note about EPS.

Scoring Indicators

Any two valid points Score : 2

Time : 4 mts

Learning Outcomes

- 12.3, Identifies advantages and limitations of e-Governance.

Q. 7 Define the term e-Business. What are the advantages and challenges of e-Business? Write any two e-Business websites.

Scoring Indicators

Definition 1 score. Advantages and challenges 3 score, Two websites 1 score. Score : 5

Time : 10 mts

Learning Outcomes

- 12.4, Explains all about e-Business.

Q. 8 Match the following.

A		B	
a)	Right given to an invention	1)	Geographical indications
b)	The right given to a logo or a symbol	2)	Patent
c)	Registered design of iPhone	3)	Trademark
d)	Aranmula Kannadi, Palakkadan Matta	4)	Industrial design

Scoring Indicators

a-2, b-3, c-4, d-1

Score : 2

Time : 4 mts

Learning Outcomes

- 12.7, Uses e-Learning tools to overcome the limitations of traditional learning.

Q. 9 The unauthorized use of intellectual property rights is termed as _____.

Scoring Indicators

Infringement

Score : 1

Time : 2 mts

Learning Outcomes

- 12.4, Explains all about e-Business.

Q. 10 Expand the term WIPO in connection with IPR.

Scoring Indicators

World Intellectual Property Organization

Score : 1

Time : 2 mts

Learning Outcomes

- 12.4, Explains all about e-Business.

Q. 11 The exclusive right granted to an invention is called _____.

a) Trademark b) Copy right c) Patent d) Design

Scoring Indicators

c) Patent

Score : 1

Time : 2 mts

Learning Outcomes

- 12.4, Explains all about e-Business.

Q. 12 "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

Score : 3

Time : 6 mts

Learning Outcomes

- 12.4, Explains all about e-Business.

Q. 13 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

- 12.5, Gets acquainted with various components, advantages and limitations of e-Business.

Q. 14 Compare patent and Trade mark.

Scoring Indicators

Definition of each term 2 score each

Score : 4

Time : 8 mts

Learning Outcomes

- 12.5, Gets acquainted with various components, advantages and limitations of e-Business.

Q. 15 The exclusive right given to a person over the creation of his/her mind for a period of time is called _____.

Scoring Indicators

Patent/Intellectual Property Right

Score : 1

Time : 2 mts

Learning Outcomes

- 12.6, Recognises the concept and functions of e-learning.

Q. 16 Write a short note on intellectual property theft.

Scoring Indicators

Any two valid points

Score : 2

Time : 4 mts

Learning Outcomes

- 12.8, Identifies advantages and limitations.

Q. 17 Define the following terms.

a) Cyber space

b) Cyber crime

Scoring Indicators

For each definition 1 score.

Score : 1

Time : 4 mts

Learning Outcomes

- 12.7, Uses e-Learning tools to overcome the limitations of traditional learning.

Q. 18 What is the name given to the process of using scientific knowledge for analyzing and presenting evidence of cyber related crimes before court?

Scoring Indicators

Cyber forensics

Score : 1

Time : 2 mts

Learning Outcomes

- 12.8, Identifies advantages and limitations.

Q. 19 "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

- 12.8, Identifies advantages and limitations.

Q. 20 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

- 12.8, Identifies advantages and limitations.

Q. 21 Write a short note on the importance of IT Act 2000.

Scoring Indicators

Any three valid points. Each 1 mark.

Score : 3

Time : 6 mts

Learning Outcomes

- 12.8, Identifies advantages and limitations.

Q. 22 "Infomania affects peoples' lives and their loved ones." Comment on this statement.

Scoring Indicators

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

Score : 3

Time : 6 mts