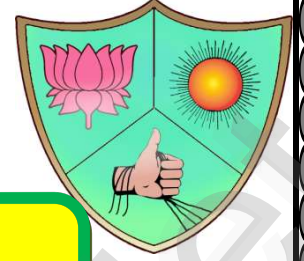


# VIVEKANANDA VIDYALAYA MATRIC HR SEC SCHOOL



PANNAIKADU PIRIVU



KODAIKANAL

## 12<sup>TH</sup> - STD



**CHARLES BABBAGE**  
FATHER OF COMUTER



IF YOU FAIL NEVER  
GIVE UP BECAUSE FAIL  
MEANS FIRST ATTEMPT  
IN LEARNING

# COMPUTER APPLICATION FULL MATERIAL

(NEW EDITION 2024-25)

**NAME** : \_\_\_\_\_

**REG NO** : \_\_\_\_\_

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## முகவுரை

மாணவ நண்பர்களுக்கு,

கணினி அறிவியல் பாடத்தில் நல்ல மதிப்பெண்களை பெற வேண்டும் என்ற நோக்கத்தில் எளிமையான முறையில் படிப்பதற்கு வசதியாக எனது 10 வருட பணி அனுபவத்தை கொண்டு இந்த **material** - யை தொகுத்துள்ளேன். எனது பாணியில் எனது மாணவர்களுக்கு ஏற்றவாறு தயார் செய்த இந்த தொகுப்பை அனைத்து மாணவர்களும் பயன்பெற வேண்டும் என்ற நோக்கத்திலேயே வெளியிட்டுள்ளேன். எனது இந்த தொகுப்பில் ஏதேனும் பிழைகள் குறைகள் இருந்தால் சரிசெய்து கொள்ளவும். பின் தங்கிய மாணவர்களும் நல்ல மதிப்பெண்களை பெற வேண்டும் என்ற நோக்கத்திலேயே இதை தொகுத்துள்ளேன்.

தற்பொழுது அரசு வெளியிட்டுள்ள புதிய பாடத் திட்ட தொகுப்பின் அடிப்படையில் இந்த வினா விடை தொகுப்பை மட்டும் என்னால் இயன்ற அளவிற்கு மிக எளிமையாக உருவாக்கியுள்ளேன். முழு மதிப்பெண்கள் பெற இதுவே போதுமானது. மேலும் பொதுத்தேர்வில் பின்தங்கிய மாணவர்களும் நல்ல மதிப்பெண்களை பெற வைக்க முடிந்தது. எனவே இதை உபயோகப்படுத்தி நல்ல மதிப்பெண்களை பெறவும்.

மாணவ நண்பர்களே!! நேரத்தை சரியாக பயன்படுத்தி கொள்ளுங்கள். சரியான நேரத்தில் சரியான முறையில் படித்து வெற்றி பெற்று அடுத்த கட்ட நிலைக்கு செல்ல வேண்டிய இறுதி நிலையில் உள்ளாய். நேரத்தை வீணாக்காதே! அடுத்து என்ன செய்ய போகிறாய் என்பதை முதலில் தீர்மானி. மதிப்பெண்களை பெறுவதிலேயே கவனத்தை வை. முயன்றால் முடியாதது எதுவுமில்லை. கடினமாக தான் இருக்கும். கஷ்டப்பட்டு படித்தால் நல்ல முன்னேற்றத்தை அடைவாய்.

பள்ளி பருவத்தில் நீ பெறும் வெற்றியே உன் வாழ்க்கை முழுவதையும் தீர்மானிக்க போகிறது என்பதை நன்றாக கவனம் கொள். தினமும் காலையில் படிப்பதற்கு முன் உன் இலக்கு என்ன என்பதை இரு நிமிடம் யோசித்து பார். நீ செல்வது சரியான பாதையா என்று சிந்தி!!!! நல்ல பாதையே நல்ல முடிவை தரும். நல்ல மதிப்பெண்களை பெறுவதே உன் நோக்கமாக இருக்கட்டும். அதுவே உன் வாழ்க்கை என்னும் பாதைக்கு நல்வழிகாட்டும். பள்ளி வாழ்க்கையின் கடைசி நிலையில் உள்ளாய்!!!! இங்கு நீ பெறும் மதிப்பெண்களே உன் அடுத்த கட்ட பாதையை உருவாக்க போகின்றன என்பதை நினைவில் எப்பொழுதும் வை.

உன் பெற்றோரின் உழைப்பையும் சிந்தித்துப் பார். பிறகு படிக்க ஆரம்பி. கவனம் சிதறாமல் படிப்பில் கவனத்தை செலுத்துவாய். பிறகு நீயாகவே முயற்சி செய்து நல்ல மதிப்பெண்களையும் பெறுவாய்.

உங்களுக்காக நாங்கள்!!!!

உன் வெற்றியே எங்கள் வெற்றி!!!!

உங்கள் வெற்றியில் பெருமைப்பாட நாங்களும் காத்திருக்கிறோம்!!!!!!

**WISH YOU ALL THE BEST FOR YOUR EXAMINATION**

P. Shamin  
ஆசிரியர்

## CHAPTER 1

### MULTIMEDIA

#### I. CHOOSE THE CORRECT ANSWER:

1. What is multimedia?

- a). a type of computer hardware
- b). a type computer software
- c). a type of computer network
- d). the use of multiple forms of media to communicate information**

2. \_\_\_\_ have five major components like text, images, sound, video and animation?

- a). Multimedia**      b). Master page      c). Master item      d). Multi-word

3. What is raster Image?

- a). a type of image made up of pixels**                      b). a type of image made up of geometric shapes
- c). a type of image made up of text                      d). a type of image made up of sound waves

4. What is vector image?

- a). a type of image made up of pixels                      **b). a type of image made up of geometric shapes**
- c). a type of image made up of text                      d). a type of image made up of sound waves

5. Which of the following is a raster image file format?

- a). JPEG**                      b). EPS                      c). CDR                      d). SVG

6. Which of the following is a vector image file format?

- a). PSD                      b). JPEG                      **c). EPS**                      d). BMP

7. RTF (Rich Text Format) file format was introduced by \_\_\_\_.

- a) TCS                      **b) Microsoft**                      c) Apple Inc                      d) IBM

8. The expansion of JPEG is \_\_\_\_\_

- a). Joint Photographic Experts Group**                      b). Joint photo Experts Group
- c). Join Photon Experts Group                      d). Joint Photographic express group

9. AIFF file format was developed by

- a). TCS                      b). Microsoft                      **c). Apple Inc**                      d). IBM

10. Which of the following is an audio file format?

- a). MP3**                      b). AVI                      c). MPEG                      d). PNG

#### II. SHORT ANSWERS:

1. Define Multimedia.

- ☉ Multimedia of two words is a "Many" and Media is a Medium
- ☉ Multimedia is an integration of many types of media like text, images, graphics, audio, video, animation etc.

## 2. List out Multimedia Components.

- ✿ Text
- ✿ Images
- ✿ Audio
- ✿ Video
- ✿ Animation

## 3. Classify the TEXT component in multimedia

- ✿ **Static text** – Heading, Line, Paragraph
- ✿ **Hypertext** – Node, Text, Link

## 4. Classify the IMAGE component in multimedia.

- ❖ **Raster or bitmap images** – Common images
- ❖ **Vector image**- Lines, Rectangles, Circles.

## 5. Define Animation.

- ❖ Animation is the process displaying still images so quickly so that they give the impression of continuous movement.
- ♣ 2-Dimensional Animations – X and Y
- ♣ 3-Dimensional Animation – X, Y, Z

## **III. EXPLAIN IN BRIEF ANSWER:**

### 1. List out image file formats.

- ✿ BMG (Bitmap)
- ✿ TGA (Tagro)
- ✿ GIF (Graphics Interchange Format)
- ✿ PNG (Portable Network Graphics)

### 2. List out audio file formats.

- ☉ MP3 (MPEG Layer-3 Format)
- ☉ OGG
- ☉ AIFF (Audio Interchange File Format)
- ☉ RA(Real Audio Format)
- ☉ WAV(Waveform Audio File Format)
- ☉ RA (Real Audio Format)

### 3. List out video file formats

- ♣ AVI (Audio/File Interleave)
- ♣ WMV (Windows Media Video)
- ♣ MPEG (Moving Picture Experts Group)
- ♣ FLV (Flash Video)

#### **IV. EXPLAIN IN DETAIL:**

##### **1. Explain in detail about production team Roles and Responsibilities.**

###### **i. Production Manager**

- The role of production manager is to define, and coordinate, the production of the multimedia project in time and with full quality.
- He should be an expertise in the technology, good at proposal writing, good communication skills and budget management skills.

###### **ii. Content Specialist**

- It is responsible for performing all research activities concerned with the proposed application's content.
- Program content refers to projects information, graphics, data or facts presented through the multimedia production.

###### **iii. Script Writer**

- Video and film scripts represent a linear sequence of events.
- The script writer visualizes the concepts in three dimensional environment and if needed uses the virtual reality integration into the program.

###### **iv. Text Editor**

- The content of a multimedia production always must flow logically and the text should always be structured and correct grammatically.
- Text and narration is an integrated part of the application.

###### **v. Multimedia Architect**

- The multimedia architect integrates all the multimedia building blocks like graphics, text, audio, music, video, photos and animation by using authoring software.

##### **2. Explain about different file formats in multimedia files.**

###### **i). Text Formats:**

- **RTF:**
  - Rich Text Format is the primary file format introduced in 1987 by Microsoft.
- **Plain text:**
  - Plain text files can be opened, read, and edited with most text editors.

###### **ii). Image Formats:**

- **TIFF (Tagged Image File Format):**
  - This format is common in desktop publishing world is a high quality output.
- **GIF (Graphics Interchange Format):**
  - GIF is a compressed image format.
  - Most of the computer color images and backgrounds are GIF files.

- **JPEG (Joint Photographic Experts Group):**

- JPEG is a commonly used method of lossy compression for digital images.

- **TGA (Tagra):**

- It is the first popular format for high-resolution images.

**iii). Digital Audio File Formats:**

- **WAV (Waveform Audio File Format) :**

- It is the most popular audio file format in windows for storing uncompressed sound files.

- **MP3 (MPEG Layer-3 Format):**

- MPEG Layer-3 format is the most popular format for storing and downloading music.

- **WMA (Windows Media Audio):**

- It is a popular windows media audio format owned by Microsoft.
- WMA is a file extension used with windows media player.

- **RA (Real Audio Format):**

- Real Audio format is designed for streaming audio over the Internet.
- The digital audio resources are usually stored as a computer file in computer's hard drive or CD/DVD.

**iv). Digital Video File Formats:**

- **AVI (Audio/Video Interleave):**

- AVI is the video file format for Windows.
- Here sound and picture elements are stored in alternate interleaved chunks in the file.

- **MPEG (Moving Picture Experts Group):**

- MPEG is a standard for generating digital video and audio compression under the International Standards Organization (ISO) by the group of people.

\*\*\*\*\*

## CHAPTER 2

### AN INTRODUCTION TO ADOBE PAGEMAKER

#### **I. CHOOSE THE CORRECT ANSWER:**

1. DTP stands for \_\_\_\_\_  
 (a) Desktop Publishing (b) Desktop Publication (c) Doctor to Patient (d) Desktop Printer
2. \_\_\_\_\_ is a DTP software.  
 (a) Lotus 1-2-3 (b) Page Maker (c) Maya (d) Flash
3. Which menu contains the new option?  
 (a) File menu (b) Edit menu (c) Layout menu (d) Type menu
4. In PageMaker Window, the area outside of the dark border is referred to as \_\_\_\_\_.  
 (a) Page (b) pasteboard (c) blackboard (d) dashboard
5. Shortcut to close a document in PageMaker is \_\_\_\_\_.  
 (a) Ctrl + A (b) Ctrl + B (c) Ctrl + C (d) Ctrl + W
6. A \_\_\_\_\_ tool is used for magnifying the particular portion of the area.  
 (a) Text tool (b) Line tool (c) Zoom tool (d) Hand tool
7. \_\_\_\_\_ tool is used for drawing boxes.  
 (a) Line (b) Ellipse (c) Rectangle (d) Text
8. Place option is present in \_\_\_\_\_ menu.  
 (a) File (b) Edit (c) Layout (d) Window
9. To select an entire document using the keyboard, press \_\_\_\_\_.  
 (a) Ctrl + A (b) Ctrl + B (c) Ctrl + C (d) Ctrl + D
10. Character formatting consists of which of the following text properties?  
 (a) Bold (b) Italic (c) Underline (d) All of these
11. Which tool lets you edit text?  
 (a) Text tool (b) Type tool (c) Crop tool (d) Hand too
12. Shortcut to print a document in Pagemaker is \_\_\_\_\_.  
 (a) Ctrl + A (b) Ctrl + P (c) Ctrl + C (d) Ctrl + V

#### **II. SHORT ANSWERS:**

1. What is desktop publishing?  
 ☺ It is the creation of page layouts for documents using DTP software
2. Give some examples of DTP software.
  - Adobe page maker,
  - Adobe in design,
  - Quark Xpress,

### 3. Write the steps to open PageMaker.

- ☉ Start → All programs → Adobe → Page maker 7.0 → Adobe Page maker 7.0

### 4. How do you create a New document in Page Maker?

- Choose file → new in the menu bar. (or) press Ctrl + N in the keyboard
- Now document setup dialog box appears.
- Enter the appropriate settings.
- Click on OK.

### 5. What is a Pasteboard in Page Maker?

- ✿ A document page is displayed within a dark border.
- ✿ The area outside of the dark border is referred to as the pasteboard.

### 6. Write about the Menu bar of PageMaker.

- |           |              |            |
|-----------|--------------|------------|
| ❖ File,   | ❖ Type,      | ❖ View,    |
| ❖ Edit,   | ❖ Element,   | ❖ Windows, |
| ❖ Layout, | ❖ Utilities, | ❖ Help,    |

### 7. Differentiate Ellipse tool from Ellipse frame tool.

- ✿ Ellipse tool – used to draw circles and ellipses.
- ✿ Ellipse frame tool – used to create elliptical placeholders for text and graphics.

### 8. What is text editing?

- ❖ A text block contains type, paste or import.
- ❖ You can't see the borders of a text block until you select the pointer tool.

### 9. What is threading text blocks?

- ☉ The process of connecting Text among Text blocks is called threading text.
- ☉ It can be identified by a plus sign in its top or bottom, handles.

### 10. How do you insert a page in PageMaker?

- ♣ **Step 1:** Go to the page.
- ♣ **Step 2:** Layout → Inset page  
Insert dialog box appears
- ♣ **Step 3:** Type → Number of pages want.
- ♣ **Step 4:** Choose → after from the pop-up menu.
- ♣ **Step 5:** Click → insert.

### III. EXPLAIN IN BRIEF ANSWER:

#### 1. What is PageMaker? Explain its uses.

- ☉ It is a page layout software. It is used to design and produce documents that can be printed.
- ☉ You can create anything from a simple business card to a large book.



- Example: Creating a Newsletter that includes articles and pictures on each page using page maker.

## 2. Mention three tools in PageMaker and write their keyboard shortcuts.

- ♣ Pointer Tool F9
- ♣ Rotating Tool Shift + F2
- ♣ Line Tool Shift + F3

## 3. Write the use of any three tools in PageMaker along with symbols.

- ♣ **Line Tool** \ Used to draw straight lines in any direction.
- ♣ **Constrained line tool** - Used to draw vertical or horizontal lines.
- ♣ **Rectangle tool** □ Used to draw squares and rectangles

## 4. How do you rejoin split blocks?

- ✱ Place the cursor on the bottom handle of the second text block click and drag the bottom handle up to the top.
- ✱ Place the cursor on the bottom handle of the first text block and click and drag the bottom handle down if necessary.

## 5. How do you link frames containing text?

- ✱ Draw a second frame.
- ✱ Click the first frame to select it.
- ✱ Click on the red triangle to load the text icon.
- ✱ Click the second

## 6. What is the use of Master Page?

- ❖ Any text or object that you place on the master page will appear on the entire document pages to which the master is applied.
- ❖ Master page repeating logos, page numbers, headers and footers.

## 7. How to you insert page numbers in Master pages?

Click on Master Page icon  
 ↓  
 Click on Text tool  
 ↓  
 Click on Left Master Page (that you want to put page number)  
 ↓ Press  
 Ctrl + Alt + P (The page number display as 'LM' on the left master page)  
 ↓  
 Similarly click on right master page (RM) that you want to put  
 ↓  
 Press Ctrl + Alt + P

## IV. EXPLAIN IN DETAIL:

### 1. Explain the tools in PageMaker toolbox.

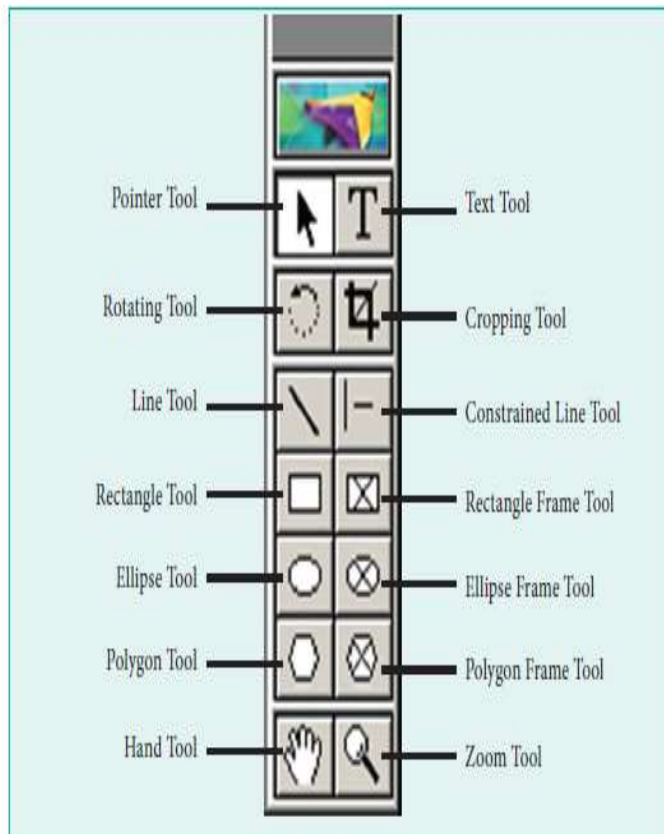


Figure 9.8 Toolbox

Explain any five tools →

Tool	Toolbox	Cursor	Use
Pointer Tool			Used to select, move, and resize text objects and graphics.
Text tool			Used to type, select, and edit text.
Rotating tool			Used to select and rotate objects.
Cropping tool			Used to trim imported graphics.
Line tool			Used to draw straight lines in any direction.
Constrained line tool			Used to draw vertical or horizontal lines.
Rectangle tool			Used to draw squares and rectangles.
Rectangle frame tool			Used to create rectangular placeholders for text and graphics.
Ellipse tool			Used to draw circles and ellipses.
Ellipse frame tool			Used to create elliptical placeholders for text and graphics.
Polygon tool			Used to draw polygons.
Polygon frame tool			Used to create polygonal placeholders for text and graphics.
Hand tool			Used to scroll the page (an alternative to the scroll bar)
Zoom tool			Used to magnify or reduce an area of the page.

### 2. Write the steps to place the text in a frame.

- Click on any one Frame tool from the Toolbox.
- Draw a frame with one of PageMaker's Frame tools.
- Make sure the object remains selected.
- Click on **File > Place**. The Place dialog box will appear.
- Locate the document that contains the text you want to place, select it.
- Click on **Open**.
- Click inside the frame to place the text in it.
- The text will be placed in the frame.

### 3. Write the steps to draw a star using polygon tool?

- ♣ Draw the **frame** of your choice using one of the PageMaker's Frame tool.
- ♣ Select the text block you want to insert in the frame.
- ♣ Click the frame while pressing the Shift key. Now both elements will be selected.
- ♣ Choose **Element > Frame > Attach Content** on the Menu bar.
- ♣ Now the text appears in the frame.

## CHAPTER 3

### INTRODUCTION TO DATABASE MANAGEMENT SYSTEM

#### I. CHOOSE THE CORRECT ANSWER:

1. Which language is used to request information from a Database?  
a) Relational                      b) Structural                      c) **Query**                      d) Compiler
2. The ----- diagram gives a logical structure of the database graphically?  
a) **Entity-Relationship**      b) Entity                      c) Architectural Representation      d) Database
3. An entity set that does not have enough attributes to form primary key is known as  
a) Strong entity set              b) **Weak entity set**              c) Identity set              d) Owner set
4. ----- Command is used to delete a database.  
a) Delete database database\_name                      b) Delete database\_name  
c) **Drop database database\_name**                      d) Drop database\_name
5. MySQL belongs to which category of DBMS?  
a) Object Oriented              b) Hierarchical              c) **Relational**              d) Network
6. MySQL is freely available and is open source.  
a) **True**                      b) False                      c). True only for windows                      d). True only for UNIX
7. ----- represents a "tuple" in a relational database?  
a) Table                      b) **Row**                      c) Column                      d) Object
8. Communication is established with MySQL using  
a) **SQL**                      b) Network calls                      c) Java                      d) API's
9. Which is the MySQL instance responsible for data processing?  
a) MySQL Client                      b) **MySQL Server**                      c) SQL                      d) Server Daemon Program
10. The structure representing the organizational view of entire database is known as ----- in MySQL database.  
a) **Schema**                      b) View                      c) Instance                      d) Table

#### II. SHORT ANSWERS:

1. Define Data Model and list the types of data model used.

##### Definition:

- ♣ The databases technology came into existence in terms of model with relational and object-relational behavior.

##### Types of data model:

- ☉ Hierarchical Databases Model
- ☉ Relational Model
- ☉ Network Model
- ☉ Object - Oriented Databases Model

**2. List few disadvantages of file processing system.**

- ✿ Data Duplication Wasting Spaces
- ✿ High Maintenance Cost
- ✿ Less Security Provided To The Data.

**3. Define Single and multi valued attributes.**

**Single valued attribute.**

- ✿ Only one value for the attributes
- ✿ No multiple values
- ✿ Ex: Age

**Multi valued attribute**

- ❖ More than one value of particular attribute
- ❖ Ex: Degree

**4. List any two DDL and DML commands with its Syntax.**

**i) DDL Data Duplication Language**

❖ **Create**

Syntax: CREATE DATABASE

Database\_name;

❖ **Alter**

Syntax: ALTER TABLE table\_name ADD

new\_column\_name

Column\_definition;

**ii) DML – Data Manipulation Language**

❖ **Insert**

Syntax: INSERT INTO table\_name(field 1, field 2,...value );

❖ **Update**

Syntax: UPDATE table\_names SET

Field 1 = new – value1, field 2= new –value2

[WHERE Clause];

**5. What are the ACID properties?**

- ♣ Atomicity
- ♣ Consistency
- ♣ Isolation
- ♣ Durability

**6. Which command is used to make permanent changes done by a transaction?**

- ☉ Commit

**7. What is view in SQL?**

Views → A set of stored queries

### 8. Write the difference between SQL and MySQL.

SQL	MySQL
It is not a database	It is a data bases management system
Access databases	Management relational databases
Fixed	Flexibility

### 9. What is Relationship and List its types.

- One- to- one relationship
- One- to -many relationship
- Many- to- many relationship

### 10. State few advantages of Relational databases.

- \* High Availability
- \* High Performance
- \* Robust Transactions And Support
- \* Erase Of Management
- \* Less Cost

### **III. EXPLAIN IN BRIEF ANSWER:**

#### 1. Explain on Evolution of DBMS.

- \* In earlier days they have used punched card technology to store the data.
- \* The file systems were known as predecessor of database system.
- \* Various access methods in file system were indexed, random and sequential access.
- \* Database systems became popular to overcome the above limitations of file system.

#### 2. What is relationship in databases? List its types.

- ♣ In ER Model, relationship exists between two entities.
- ♣ Each instance of the relationship between members of these entity types is called a relationship instance
- ♣ The three types listed below.
  - ♣ **One-to-One relationship:**
  - ♣ **One-to-Many relationship:**
  - ♣ **Many-to-Many relationship:**

#### 3. Discuss on Cardinality in DBMS.

- The number of items that must be included in a relationship.
- Ex:
  - Number of entities in one set mapped with the
  - Number of entities of another set via the relationship.

#### 4. List any 5 privileges available in MySQL for the User.

Privileges	Action Performed (If Granted)
Select_priv	User can select rows from database tables.
Insert_priv	User can insert rows into database tables.
Update_priv	User can update rows of database tables.
Delete_priv	User can delete rows of database tables.
Create_priv	User can create new tables in database.
Alter_priv	User can make changes to the database structure.

#### 5. Write few commands used by DBA to control the entire database.

- **USE Database** – This command is used to select the database in MySQL for working. If there exists a database named **test**, it is used as working database using the below Syntax.

**Syntax:**

```
mysql > use test;
Database changed
mysql>
```

- **SHOW Databases** – Lists all the databases available in the database server.

**Syntax:**

```
mysql > show databases;
```

- **SHOW Tables** – Lists all the tables available in the current database we are working in.

**Syntax:**

```
mysql > show tables;
```

### **IV. EXPLAIN IN DETAIL:**

#### 1. Discuss on various database models available in DBMS.

##### i). Hierarchical Database Model:

- \* The famous Hierarchical database model was IMS, IBM's first DBMS.
- \* In this model each record has information in parent/ child relationship like a tree structure.
- \* The collection of records is called as record types, which are equivalent to tables in relational model.

##### ii). Network model:

- \* Network model is similar to Hierarchical model except that in this model each member can have more than one owner.
- \* The many to many relationships are handled in a better way.

**iii). Relational model:**

- \* Oracle and DB2 are few commercial relational models in use. Relational model is defined with two terminologies Instance and Schema.
- \* **Instance** – A table consisting of rows and columns
- \* **Schema** – Specifies the structure including name and type of each column.

**iv). Object-oriented database model**

- \* This model incorporates the combination of Object Oriented Programming concepts and database technologies.
- \* Practically, this model serves as the base of Relational model.
- \* Object oriented model uses small, reusable software known as Objects.

**2. List the basic concepts of ER Model with suitable example.**

- Entity or Entity type
- Attributes
- Relationship

**i). Entity or Entity type**

- \* An Entity can be anything a real-world object or animation which is easily identifiable by anyone even by a common man.
- \* Eg: In a company's database Employee, HR, Manager are considered as entities, where each of these entity will be having their own attributes.

**Types of Entity:**

- \* Strong Entity
- \* Weak Entity
- \* Entity Instance

**ii). Attributes**

- \* An attribute is the information about that entity and it will describe, quantify, qualify, classify, and specify an entity.
- \* An attribute will always have a single value, that value can be a number or character or string.

**Types of attributes:**

- \* Key Attribute
- \* Simple Attributes
- \* Composite Attributes
- \* Single Valued Attribute
- \* Multi Valued Attribute

### iii). Relationship Type

- \* In ER Model, relationship exists between two entities.
- \* Three types of relationships are available and the Entity- Relationship diagram is based on the three types listed below.
  - \* One-to-One relationship
  - \* One-to-Many relationship
  - \* Many-to-Many relationship

### 3. Discuss in detail on various types of attributes in DBMS.

#### i). Key Attribute

- ♣ Generally a key attribute describes a unique characteristic of an entity.

#### ii). Simple Attribute

- ♣ The simple attributes cannot be separated.
- ♣ It will have a single value for that entity.
- ♣ For Example: Let us consider the name as the attribute for the entity employee and here the value for that attribute is a single value.

#### iii). Composite Attributes

- ♣ The composite attributes can be sub-divided into simple attributes without change in the meaning of that attribute.
- ♣ For Example: In the above diagram the employee is the entity with the composite attribute Name which are sub-divided into two simple attributes first and last name

#### iv). Single Valued Attributes:

- ♣ A single valued attribute contains only one value for the attribute and they don't have multiple numbers of values.
- ♣ For Example: Age- It is a single value for a person as we cannot give 'n' number of ages for a single person; therefore it is a single valued attribute.

#### v). Multi Valued Attributes:

- ♣ A multi valued attribute has more than one value for that particular attribute.
- ♣ For Example: Degree - A person can hold n number of degrees so it is a multi-valued attribute.

### 4. Write a note on open source software tools available in MySQL Administration.

- ✿ Many open source tools are available in the market to design the database in a better and efficient manner.
- ✿ PhpMyAdmin is most popular for Web Administration.
- ✿ The popular Desktop Application tools are MySQL Workbench and HeidiSQL.



**PHPMYADMIN (Web Admin)**

- ✿ This administrative tool of MySQL is a web application written in PHP.
- ✿ They are used predominantly in web hosting.
- ✿ The main feature is providing web interface, importing data from CSV and exporting data to various formats.

**MySQL Workbench (Desktop Application)**

- ✿ It is a database tool used by developers and DBA's mainly for visualization.
- ✿ This tool helps in data modeling, development of SQL, server configuration and backup for MySQL in a better way.
- ✿ Its basic release version is 5.0 and is now in 8.0 supporting all Operating Systems.
- ✿ The SQL editor of this tool is very flexible and comfortable in dealing multiple results set.

**HeidiSQL (Desktop Application)**

- ✿ This open source tool helps in the administration of better database systems.
- ✿ It supports GUI (Graphical User Interface) features for monitoring server host, server connection, Databases, Tables, Views, Triggers and Events.

**5. Explain the DDL command of their functions in SQL.****i). SQL:**

SQL- Structured Query Language is a standard language used for accessing and manipulating databases.

**ii). Data Definition Language (DDL):**

- ❖ The DDL commands are used to define database schema (Structure).
- ❖ Also to create and modify the structure of the database object in the database.
- ❖ CREATE, ALTER, DROP, RENAME and TRUNCATE commands belongs to this category.

<b>SQL DDL COMMANDS List</b>	
<b>Commands</b>	<b>Description</b>
CREATE	Used to create database or tables
ALTER	Modifies the existing structure of database or table
DROP	Deletes a database or table.
RENAME	used to rename an existing object in the database
TRUNCATE	Used to delete all table records

\*\*\*\*\*

## CHAPTER 4

### PHP: HYPERTEXT PRE-PROCESSOR

#### I. CHOOSE THE CORRECT ANSWERS:

1. The expansion of PHP is \_\_\_\_\_?
  - a) PHP: Hyper text preprocessor
  - b) Personal Hypertext Preprocessor
  - c) Pretext Home page
  - d) Pre-processor Home Page
2. What does PHP files have a default file extension?
  - a) .html
  - b) .xml
  - c) .php
  - d) .ph
3. The PHP script should start with \_\_\_\_\_
  - a) <?php
  - b) <php
  - c) <php?
  - d) <:?
4. How many data types does PHP support?
  - a) 18
  - b) 28
  - c) 8
  - d) 38
5. Every variable name in PHP must begin with a \_\_\_\_\_ symbol?
  - i) #
  - ii) //
  - iii) \$
  - iv) <
6. \_\_\_\_\_ in PHP are case sensitive
  - a). Variable names
  - b). Keyboard
  - c). Variable names and keywords
  - d). None
7. The assignment operator is \_\_\_\_\_
  - a) =
  - b) ==
  - c) ===
  - d) !=
8. \_\_\_\_\_ operators perform an action to compare two values.
  - a) Arithmetic
  - b) Comparison
  - c) Increment
  - d) Logical
9. Which operator is called "Identical"?
  - a) =
  - b) ==
  - c) ===
  - d) <>
10. \_\_\_\_\_ is a data type which contains decimal numbers
  - a) Integer
  - b) Float
  - c) Boolean
  - d) NULL

#### II. SHORT ANSWERS:

1. What is PHP?
  - It is a powerful language that is used to create dynamic and interactive web pages.
2. What is a dynamic web page?
  - A dynamic web page, on the other hand is a page whose content can change each it is viewed.
3. What are the different types of comments in PHP. Give an example?
  - **Single-line comments** - denoted by "//" or "#" at the beginning of a line.
  - Example: # This is a comment  
// This is also a comment

- ☉ **Multi-line comments** - enclosed between `"/"` and `"/"`.
- ☉ Example: `/* This is an example of a multi-line comment.*/`

#### 4. List out any four operators in PHP?

- ♣ Arithmetic Operators
- ♣ Assignments Operators
- ♣ Comparison Operators
- ♣ String Operators

#### 5. What is Echo statement used for? Give an example?

- The echo statement is used to output a string of text or a variable.
- Examples: `echo 'Hello, world!';`

### **III. EXPLAIN IN BRIEF ANSWER:**

#### 1. What are the features of PHP?

- Server-side scripting language
- Open source software
- Platform Independent
- Database support

#### 2. Explain then types of PHP tags?

##### i). PHP Default tags:

- In the PHP default tags, PHP code is enclosed in `<?php` and `?>` tags.

```
<?php
    // PHP code
?>
```

##### ii). Short Open tags:

- Short open tags are an alternative to the default syntax, and they allow you to use `<?` and `?>` instead of `<?php` and `?>`.

```
<?
    // PHP code
?>
```

##### iii). HTML script embed tags:

- You can also embed PHP code within HTML script tags like this.

```
<script language= "php">
    // PHP code
</script>
```

### 3. Write about the rules for naming a variable in PHP?

- A variable name must start with a dollar sign (\$), for example, \$name.
- The variable name can contain a combination of strings, numbers, and the underscore, for example, \$my\_report1.
- The first character after the dollar sign must be either a letter or an underscore.
- Variable names in PHP are case-sensitive. This is a very important rule. It means that \$name and \$Name are entirely different variables.

### 4. List out the different types of data types in PHP.

- Integer
- Float
- String
- Boolean
- Array
- Object
- Resource
- NULL

### 5. Write about the syntax of PHP.

- PHP code enclosed in <?php and ?> tags. These tags are called opening and closing tags.

**Example:**

```
<?php
// PHP code
?>
```

- A PHP statement must end with a semicolon(;).

**Example:**

```
<?php
Echo "Hello, world!"; // This is a valid PHP statement
?>
```

## **IV. EXPLAIN IN DETAIL:**

### 1. What are the data types in PHP? Explain? (explain any 5)

- \*\* PHP scripting language supports 13 primitive data types.
- \*\* It plays an important role in all programming languages to classify the data into the logics.
- \*\* PHP supports the following data types.

- |            |            |             |
|------------|------------|-------------|
| ** String  | ** Boolean | ** NULL     |
| ** Integer | ** Array   | ** Resource |
| ** Float   | ** Object  |             |

s.no	Data type	Explanation	Example
1	<b>String</b>	String is a collection of characters within the double or single quotes.	\$x = "Computer Application"
2	<b>Integer</b>	Integer is a data type which contains non decimal numbers.	\$x = 59135;
3	<b>Float</b>	Float is a data type which contains decimal numbers.	\$x = 19.15;
4	<b>Boolean</b>	Boolean is a data type which denotes the possible two states, TRUE or FALSE	\$x = true; \$y = false;
5	<b>Array</b>	Array is a data type which has multiple values in single variable.	\$cars = array("Computer","Laptop","Mobile");
6	<b>Object</b>	In PHP object is a data type which contains information about data and function inside the class.	\$school_obj = new School ();
7	<b>Null</b>	Null is a special data type which contains no value:	\$x = null;
8	<b>Resources</b>	It is a specific variable; it has a reference to an external resource.	\$handle = fopen("note.txt", "r"); var_dump(\$handle);

## 2. Explain operators in PHP with example. (Explain any 5)

- ❖ Operator is a symbol which is used to perform mathematical and logical operations in the programming languages.
- ❖ Different types of operator in PHP are:
  - \* Arithmetic operators,
  - \* Assignment operators,
  - \* Comparison operators,
  - \* Increment/Decrement operators,
  - \* Logical operators, and
  - \* String operators.

### i). Arithmetic operators:

- The arithmetic operators in PHP perform general arithmetical operations, such as addition, subtraction, multiplication and division etc.

### ii). Assignment Operators:

- It's performed with numeric values to store a value to a variable.
- The default assignment operator is "=".
- This operator sets the left side operand value of expression to right side variable.

### iii). Comparison Operators:

- Comparison operators perform an action to compare two values.
- These values may contain integer or string data types.

**iv). Increment and Decrement Operators:**

- It's used to perform the task of increasing or decreasing variable's value.
- This operator is mostly used during iterations in the program logics.

**v). Logical Operators:**

- Logical Operators are used to combine conditional statements.

**vi). String Operators:**

- Two operators are used to perform string related operations such as Concatenation and Concatenation assignment.

\*\*\*\*\*

## CHAPTER 5

### FUNCTION AND ARRAYS IN PHP

#### **I. CHOOSE THE CORRECT ANSWERS:**

1. A \_\_\_\_\_ is a block of code that performs a specific task.  
a) parameter                      b) **function**                      c) class                      d) label
2. Pre-defined functions are also called \_\_\_\_\_.  
a) user-defined functions                      b) recursive functions  
c) **built-in functions**                      d) lambda functions
3. Which one of the following is the right way of defining a function in PHP?  
a) **function functionName() { // code to be executed }**                      b) function() {}  
c) def myFunction():                      d) None of the above
4. A user-defined function in PHP starts with the keyword \_\_\_\_\_.  
a) **function**                      b) def                      c) defined                      d) funct
5. Which of the following is a correct way to call a function in PHP?  
a) **functionName();**                      b) call functionName;  
c) execute functionName;                      d) run functionName();
6. What is an array in PHP?  
a) An array is a special data type.                      b) It can hold many values under a single variable name.  
c) An array element can be any type of data.                      d) **All of the above**
7. How many types of arrays are there in PHP?  
a) 2                      b) **3**                      c) 4                      d) 5
8. What is the index of the first element in an indexed array in PHP?  
a) **0**                      b) 1                      c) 2                      d) 3
9. What is the index of the third element in an indexed array in PHP with 5 elements?  
a) 2                      b) **3**                      c) 4                      d) 5
10. How do you create an indexed array in PHP?  
a) By enclosing a comma-separated list of values in square brackets  
b) By using the array() function  
c) By enclosing a comma-separated list of values in curly braces  
d) **Both A and B**
11. How do you access the elements of an indexed array in PHP?  
a) **By using the array index in square brackets**  
b) By using the array key in square brackets  
c) By using the array index in curly braces  
d) By using the array key in curly braces

**II. SHORT ANSWERS:****1. What is a Function?**

- ☉ A function is a collection of code that performs a specific task.
- ☉ It is an important feature of PHP and used to reuse code.

**2. What are the different types of functions in PHP?**

- \* Built -in functions
- \* User-defined functions

**3. Write short notes on built-in functions in PHP?**

- ♣ These are functions that are pre defined in the PHP language and can be used to perform a variety of tasks, such as calculating the length of a string or sorting an array.

**4. What is an array in PHP and what are its main types?**

- ☉ An array is a special data type. It can hold many values under a single variable name.
- ☉ An array element can be any type of data.
  - ♠ Indexed array
  - ♠ Associative array
  - ♠ Multi-dimensional array

**5. How do you create an indexed array in PHP?**

- ♣ By enclosing a comma-separated list of values in square brackets.
- ♣ By using the array () function.

**III. EXPLAIN IN BRIEF ANSWER:****1. What are the advantages of using functions in PHP?****i). Code reuse:**

- It's can save us time and effort when writing and maintaining our code.

**ii). Testing and debugging:**

- Functions allow us to test and debug our code more easily,

**iii). Modularity:**

- Functions allow us to break down our code into smaller, modular pieces,

**2. What is the syntax for defining a function in PHP?**

```
function function Name([parameter list])
{
// code to be executed
}
```

**3. How do you call a function in PHP?**

- ☉ Calling a function is another name for executing the function.



- A function is called simply by using the function name, along with an argument list, as a statement.

- **Syntax**

```
functionName();      (or)
functionName(argument list);
```

#### 4. Write Short notes on Associative Array.

- An associative array is a data structure that stores a collection of **key-value pairs**.
- The keys are used to identify the values, and the values can be of any data type.
- The keys in an associative array are often called “labels” because they label or identify the corresponding values.
- **Example:**

```
$student = ["Name"=>"Ram", "Age"=>25, "Place"=>"Trichy"]
```

### **IV. EXPLAIN IN DETAIL:**

#### 1. Explain the User defined Functions with suitable example.

##### User Defined Function:

- It in PHP gives a privilege to user to write their own specific operation inside of existing program module.

- **SYNTAX:**

```
function functionName( )
{
    { Custom Logic code to be executed; }
}
```

##### Function Calling:

- Once a function is defined it is executed by a function call.
- The programmer has to give a functions Call inside the respective program.

##### SYNTAX:

```
functionName();
```

##### Example:

```
<?php
function insertMsg() {
    echo "Student Details Inserted Successfully!";
} insertMsg(); // call the function
?>
```

##### Example:

Student details

## 2. Explain Indexed array and Associate array in PHP.

### i). Indexed Arrays

- An array is defined using the keyword "array".
- Each element of line array is assigned on index values which commences from 0 and ends with n-1.
- **Syntax:** \$Array\_Variable=array("value1","value2","value2");
- **Example:**

```
<?php
$teacher_name=array("Iniyan", "Kavin", "Nilani"); e
cho "The students name are " . $teacher_name[0] . " , " .
                                $teacher_name[1] . " and " .
                                $teacher_name[2] . " ."; ?>
```

- **Output:**

The student name are Iniyan, Kavin and Nilani

### ii). Associative arrays:

- It are a key-value pair data structure.
- Instead of storing data in a linear array, with associative arrays you can store your data in a collection and assign it a unique key which you may use for referencing your data.
- **Syntax :** \$Array\_Variable = array(key=>value,key=>value,key=>value,etc.);
- **Example:**

```
<?php
$Marks=array("Student1"=>"35","Student2"=>"17","Student3"=>"43");
echo "Student1 mark is" . $Marks['Student1'] . " is eligible for qualification";
echo "Student2 mark is" . $Marks['Student2'] . " is not eligible for qualification";
?>
```

- **Output:**

Student 1 mark is 35 is eligible for qualification

Student 2 mark is 17 is not eligible for qualification

\*\*\*\*\*

**CHAPTER 6****CONDITIONAL STATEMENTS IN PHP****I. CHOOSE THE CORRECT ANSWER:**

1. Which of the following is NOT a type of conditional statement in PHP?  
 a) if                                      b) if ... else                                      c) if ... elseif ... else                                      d) while
2. What type of statement is the if...else statement?  
 a) Conditional statement    b) Looping                                      c) Input statement    d) Output statement
3. What is the simplest conditional statement in PHP?  
 a) if-else statement    b) if statement    c) switch statement    d) if-elseif-else statement
4. How does the if statement work in PHP?  
 a) A block of code is executed if a certain condition is true.  
 b) A block of code is executed if a certain condition is false.  
 c) A block of code is executed if multiple conditions are true.  
 d) A block of code is executed if multiple conditions are false.
5. What happens if the condition in an "if" statement is false?  
 a) The code inside the curly braces is executed.  
 b) The code inside the curly braces is skipped.  
 c) The program terminates.  
 d) None of the above
6. What is the syntax for an if-else statement in PHP?  
 a) if(condition) { //True-block; }  
 b) if(condition) { //True-block; } else { //False-block; }  
 c) if-else(condition) { //True-block; } else { //False-block; }  
 d) if-elseif(condition) { //True-block; } else { //False-block; }
7. Which of the following is used to specify multiple conditions in an if ... else if ... else statement?  
 a) AND                                      b) OR                                      c) case                                      d) elseif
8. Which of the following is used to specify multiple conditions in a switch statement?  
 a) AND                                      b) OR                                      c) case                                      d) if
9. What happens if none of the case values match the expression in a switch statement?  
 a) The default case block is executed                                      b) The program terminates  
 c) The nearest case block is executed                                      d) The first case block is executed
10. Which of the following is used to terminate the switch statement?  
 a) return                                      b) continue                                      c) goto                                      d) break

**II SHORT ANSWERS:**

1. What are the different types of conditional statements in PHP?

- ♣ 'if' statement
- ♣ 'if ...else' statement
- ♣ 'if ... elseif ... else' statement
- ♣ 'switch' statement

2. Write the syntax for an if statement in PHP?

```
if (condition)
{
// code to be executed if condition is true;
}
```

3. What is the purpose of the if ... else statement?

- ❖ The if ... else statement is a conditional statement in PHP.
- ❖ If the condition is True then the True-block is executed and if the condition is False then the False- block is executed.

4. Write the syntax for an if... else statement in PHP?

**Syntax:**

```
If (condition)
{
Execute statement(s) if condition is true;
}
else
{
Execute statement(s) if condition is false;
}
```

5. What is the role of the break statement in a which statement?

- ❖ In a switch statement is to terminate the case and exit the switch statement

**III EXPLAIN IN BRIEF ANSWER:**

1. Write the syntax for an if ... elseif... else statement in PHP.

```
if (condition1)
{
// code to be executed if condition1 is true;
}
elseif (condition2)
{
// code to be executed if condition1 is false and condition2 is true;
}
```

```

elseif (condition3)
{
// code to be executed if condition1 and condition2 are false and condition3 is true;
}
else
{
// code to be executed if all conditions are false;
}

```

## 2. Write the syntax for a Switch statement in PHP.

```

switch (expression)
{
case value1:
//code to be executed if expression = value1;
break;
case value2: //code to be executed if expression = value2; break;
... default:
//code to be executed if expression is not equal to any of the values;
}

```

## 3. In an if ... elseif ... else statement, where is the code executed if all conditions are false?

- ❖ The **if ... elseif ... else** is a conditional statement that allows you to check multiple conditions and run different code based on which condition is true.
- ❖ It begins with the keyword **'if'** and followed by one or more **'elseif'**.
- ❖ Finally ends with an **'else'** part if all conditions are false.

## **IV EXPLAIN IN DETAIL:**

### 1. Explain if... elseif...else statements with an example?

- If-elseif-else statement is a combination of if-else statement.
- Here multiple conditions can be checked and action is based on the result of the condition.

#### **Syntax:**

```

if (Condition 1)
{
Statement(s) if condition 1 is true;
}
elseif(Condition 2)
{

```

```
Statement(s) if condition 2 is true;
}
else
{
Statement(s) if both conditions are false;
}
```

**Example:**

```
<?php
$Pass_Mark=35;
$first_class=60;
$Student_Mark=70;
if ($Student_Mark>= $first_class){
echo "The Student is eligible for the promotion with First Class";
}
elseif ($Student_Mark>= $Pass_Mark){
echo "The Student is eligible for the promotion";
}
else {
echo "The Student is not eligible for the promotion";
}?>
```

**2. Discuss in detail about Switch statement with an example.**

- ♣ The switch case is an alternative to the if.. elseif..else statement which executes a block of code corresponding to the match.

**Syntax:**

```
switch (n) {
case label1:
code to be executed if n=label1;
break;
case label2:
code to be executed if n=label2;
break;
case label3:
code to be executed if n=label3;
break;
```

```
...
default:
code to be executed if n is different from all labels;
}
```

**Example:**

```
<?php
$favcolor = "red";
switch ($favcolor) {
case "red":
echo "Your favorite color is red!";
break;
case "blue":
echo "Your favorite color is blue!";
break;
case "green":
echo "Your favorite color is green!";
break;
default:
echo "Your favorite color is neither red, blue, nor green!";
}
?>
```

## CHAPTER 7

### LOOPS IN PHP

#### I. CHOOSE THE CORRECT ANSWER:

1. Which of the following is NOT a type of loop statement in PHP?  
 a) for                                      b) if ... else                                      c) while                                      d) do ... while
2. What type of loop is "for loop" in PHP?  
 a) **Entry-Check Loop**    b) Exit-Check Loop                                      c) Counter Loop                                      d) Iteration Loop
3. What is the syntax for for loop in PHP?  
 a) **for (initialization; condition; increment) { // code}**  
 b) foreach(initialization; condition; decrement) { // code}  
 c) while(condition)  
 d) do{...}while(condition)
4. What are the three parts of the for loop syntax in PHP?  
 a) **initialization, condition, increment**                                      b) initialization, code block, condition  
 c) code block, condition, increment                                      d) condition, initialization, code block
5. When is the 'initialization' part of a for loop executed?  
 a) Before each iteration                                      b) After each iteration  
 c) **Only once at the beginning of the loop**                                      d) Only once at the end of the loop
6. What is the purpose of the 'increment' part of a for loop?  
 a) To initialize variables                                      **b) To update variables**  
 c) To check the condition                                      d) To execute the code block
7. What type of loop is "while loop" in PHP?  
 a) **Entry-Check Loop**                                      b) Exit-Check Loop                                      c) Counter Loop                                      d) Iteration Loop
8. What type of loop is "do...while loop" in PHP?  
 a) Entry-Check Loop                                      **b) Exit-Check Loop**                                      c) Counter Loop                                      d) Iteration Loop
9. Which looping structure should be used to iterate over elements of an array in PHP?  
 a) for loop                                      b) while loop                                      c) do...while loop                                      **d) foreach loop**
10. What is the output of the following code?  

```

$array = array(1, 2, 3, 4, 5);
foreach ($array as $value)
{
    echo $value;
}

```

 a) **1 2 3 4 5**                                      b) 5 4 3 2 1                                      c) 1 1 1 1 1                                      d) None of the above



## **II. SHORT ANSWERS:**

### **1. What is the purpose of a loop in PHP?**

- ❖ A loop executes a set of instructions repeatedly for a certain number of times or until a certain condition is met.

### **2. Write the Syntax for an 'For' loop in PHP.**

Syntax:

```
For (init counter; test counter; increment counter)
{
    Code to be executed
}
```

### **3. Write the Syntax for 'while' loop in PHP.**

Syntax:

```
While (condition is true)
{
    code to be executed
}
```

### **4. How is the 'condition' in a while loop evaluated?**

- ❖ **while loop** is called as the **entry-check** loop.
- ❖ So the condition is evaluated at the beginning of each iteration of the loop.
- ❖ If it is true, the code block is executed.
- ❖ If it is false, the loop is terminated.

### **5. What is the output of the following code snippet?**

```
$i = 1;
While ($i <= 5)
{
Echo $i. "<br>";
$i++;
}
```

**Output:**

```
1
2
3
4
5
```

### III. EXPLAIN IN BRIEF ANSWER:

1. Describe the three parts of a for loop in PHP (initialization, condition and increment) and explain their purpose.

**i). Initialization:**

- ♣ It is executed only once at the beginning of the loop.
- ♣ It is used to initialize variables.

**ii). Condition:**

- ♣ It is evaluated before each iteration of the loop.
- ♣ If it is true, the code block is executed. If it is **false**, the loop is terminated.

**iii). Increment:**

- ♣ It is executed after each iteration of the loop.
- ♣ It is used to update variables.

2. Write a PHP code to print 1 to 10 numbers in ascending order using for loop?

To print the numbers from 1 to 10 in **ascending order**

```
<?php
for ($i = 1; $i <= 10; $i++)
{
echo $i . "<br>";
}
?>
```

**Output:**

```
1
2
3
4
5
6
7
8
9
10
```

### 3. Explain the difference between While loop and Do...while loops in PHP?

While Loop	Do While Loop
Entry check Loop	Exit Check Loop
While loop is used to execute a block of code until a certain condition is true.	The do... while loop is similar to the while loop, except that the code block is always executed at least once, even if the condition is false
Syntax: while (condition) { //code to be executed; }	Syntax: do { //code to be executed; } while (condition);

#### **IV. EXPLAIN IN DETAIL:**

##### 1. Explain 'for' loop with example?

###### **For Loop:**

- ♣ **for loop** is called as the **entry-check loop**.
- ♣ The **for loop** is used to execute a block of code a specific number of times.

###### **Syntax:**

- ♣ for (initialization; condition; increment/decrement)  
{  
//code to be executed;  
}

###### **Purpose of for Loop:**

###### **i). Initialization:**

- ♣ It is executed only once at the beginning of the loop.
- ♣ It is used to initialize variables.

###### **ii). Condition:**

- ♣ It is evaluated before each iteration of the loop.
- ♣ If it is true, the code block is executed. If it is **false**, the loop is terminated.

###### **iii). Increment:**

- ♣ It is executed after each iteration of the loop.
- ♣ It is used to update variables.

###### **Example:**

To print the numbers from 1 to 5 in **ascending order**

```
<?php
for ($i = 1; $i <= 5; $i++)
{
    echo $i . "<br>";
}
?>
```

**Output:**

1  
2  
3  
4  
5

2. Write a PHP code to print 10 to 20 numbers in ascending order using while loop and do ... while loop?

i). PHP code using while loop:

```
<?php
$i = 10;
while ($i <= 20)
{
    echo $i . "<br>";
    $i++;
}
?>
```

**Output:**

10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20

ii). PHP code using do.....while loop:

```
<?php
$i = 10;
do
{
echo $i . "<br>";
$i++;
}
while ($i<= 20);
?>
```

Output:

```
10
11
12
13
14
15
16
17
18
19
20
```

3. Explain 'foreach' loop with examples?

**Foreach Loop:**

- The **foreach loop** is used to iterate over elements of an **array**.

**Syntax:**

```
foreach ($array as $value)
{
//code to be executed;
}
```

**Example:**

To print the the elements of an array:

```
$array = array(1, 2, 3, 4, 5);
foreach ($array as $value)
```

```
{  
    echo $value . "<br>";  
}
```

**Output:**

```
1  
2  
3  
4  
5
```

**foreach loop to iterate over the keys and values of an associative array:****Syntax:**

```
foreach ($array as $key => $value)  
{  
    //code to be executed;  
}
```

- The **foreach loop** will iterate over each element of the array and assign the key of the element to the \$key variable and the value of the element to the \$value variable.

**Example:**

```
$array = array("a" => 1, "b" => 2, "c" => 3);  
foreach ($array as $key => $value)  
{  
    echo $key . " => " . $value . "<br>";  
}
```

**Output:**

```
a=>1  
a=>2  
a=>3
```

**Explanation:**

- It is used to perform a set of actions on each element of an array, such as printing the elements, summing them up, or modifying them in some way.
- It is a simple and efficient way to iterate over arrays in PHP.

## CHAPTER 8

### FORMS AND FILES

#### **I. CHOOSE THE CORRECT ANSWER:**

1. What are HTML forms used for?
  - a) To collect input from users
  - b) To create server-side programming language
  - c) To create a database
  - d) To send emails
2. Which of the following is NOT a form control available in HTML forms?
  - a) Text inputs
  - b) Buttons
  - c) Checkboxes
  - d) Cropping Tool
3. Which tag is used to create an HTML form?
  - a) form
  - b) input
  - c) textarea
  - d) select
4. What form control allows the user to select multiple values?
  - a) text inputs
  - b) buttons
  - c) checkboxes
  - d) radio buttons
5. What form control allows the user to select only one value at a time?
  - a) text inputs
  - b) buttons
  - c) checkboxes
  - d) radio buttons
6. What is the purpose of validation in PHP?
  - a) To check the input data submitted by the user from the client machine
  - b) To display data to users
  - c) To store data on the server
  - d) To send data to the client
7. How many types of validation are available in PHP?
  - a) One
  - b) Two
  - c) Three
  - d) Four
8. Which PHP function can be used to open a file?
  - a) fopen()
  - b) fread()
  - c) fclose()
  - d) fwrite()
9. What PHP function can be used to read a file?
  - a) fopen()
  - b) fread()
  - c) fclose()
  - d) fwrite()
10. What PHP function can be used to close a file?
  - a) fopen()
  - b) fread()
  - c) fclose()
  - d) fwrite()

#### **II.SHORT ANSWERS:**

1. What is the main objective of PHP and HTML form controls?
  - ❖ Main objective of PHP and HTML form controls are to collect data from users.
  - ❖ It's using textbox, dropdown box and radio button etc., and sent to server using PHP.
2. What are basic HTML form controls available?
  - ❖ Text inputs
  - ❖ Buttons

- ❖ Checkbox
- ❖ Radio box
- ❖ File Select
- ❖ Form Tag

### 3. How are data collected via HTML form controls sent to the server?

- These data are collected via HTML form controls like textbox, dropdown box and radio button etc.,
- All the input values are synchronized and sent to the server via POST method or GET method.

### 4. What is Validation in PHP?

- Validation is a process of checking the input data submitted by the user from client machine.

### 5. What are the two types of validation available in PHP?

- Client-side Validation
- Server side validation.

## III. EXPLAIN IN BRIEF ANSWER:

### 1. Explain the difference between check box and radio button in HTML forms?

Check box	Radio button
It is a important feature which selects more than one value from the HTML form	It is similar to check box but one value can be chosen at a time.
Must be checkable minimum one value	Must be selectable minimum one value

### 2. Explain the difference between the POST method and GET method of sending data to the server in PHP?

POST METHOD	GET Method
The input data sent to the server with POST method is stored in the request body of the client's HTTP request.	The input data sent to the server with POST method via URL address is known as query string. All input data are visible by user after they click the submit button.

### 3. What are the different file handling tasks that can be performed using PHP?

- Files are processed for different tasks using the following events:
  - PHP Open a File
  - PHP Read a File
  - PHP Close a File
  - PHP Write a File
  - PHP Appending a File
  - PHP uploading a File



**IV. EXPLAIN IN DETAIL:****1. Discuss in detail about HTML form controls.**

- \* Main objective of PHP and HTML form controls are to collect data from users.
- \* The following control types are available in HTML form controlling:
 

* Text inputs	* Radio box
* Buttons	* File select
* Checkbox	* Form tag
- \* **Text inputs** contain textbox and text area controls.
- \* **Buttons** may contain Submit button, Reset button and Cancel Button.
- \* **Checkbox** is a important feature which selects more than one value from the HTML form.
- \* **Radio box** is similar to checkbox but one value can be chosen at a time.
- \* **File select** is the best feature to select one file from the local machine to server machine at a time.
- \* **Form tag** is used to mention a POST or GET method and control the entire form controls in the HTML document.

**2. Explain in detail of File handling functions in PHP.**

- File handling is an important activity of all web application development process.
- Files are processed for different tasks using the following events:
  - PHP Open a File,
  - PHP Read a File,
  - PHP Close a File,
  - PHP Write a File,

**i). PHP Open a File**

- \* fopen() is a system function available in PHP.
- \* This function helps to open a file in the server.
- \* It contains two parameters one for the file and the other one specifies in which mode the file should be opened (Read/Write).

**Syntax:**

- \* `$file_Object= fopen("FileName", "Read/WriteMode") or die("Error Message!");`

**ii). PHP Read a File:**

- \* The fread() function reads from an open file. The file object comes from fopen function.

**Syntax:**

- \* `fread($file_Object,filesize("FileName"));`

**iii). PHP Close a File:**

- ♣ The fclose() function is used to close an opened file. The file object comes from fopen function.

**Syntax:**

- ♣ fclose(\$file\_Object);

**iv). PHP write a File:**

- ♣ The fwrite() function is used to write to a file.

**Syntax:**

- ♣ fwrite(\$myfile, \$txt);

\*\*\*\*\*

## CHAPTER 9

### CONNECTING PHP AND MYSQL

#### I. CHOOSE THE CORRECT ANSWER:

1. Which is the correct function to execute the SQL queries in PHP ?
  - a) `mysqli_query("Connection Object","SQL Query")`
  - b) `query("Connection Object","SQL Query")`
  - c) `mysql_query("Connection Object","SQL Query")`
  - d) `mysql_query("SQL Query")`
2. Which is the correct function Closing Connection in PHP ?
  - a) `mysqli_close("Connection Object");`
  - b) `close("Connection Object");`
  - c) `mysql_close("Connection Object");`
  - d) `mysqli_close("Database Object");`
3. Which is the correct function to establish Connection in PHP ?
  - a) `mysqli_connect("Server Name ","User Name","Password","DB Name");`
  - b) `connect("Server Name ","User Name","Password","DB Name");`
  - c) `mysql_connect("Server Name ","User Name","Password","DB Name");`
  - d) `mysqli_connect ("Database Object");`
4. Which is the not a correct MySQL Function in PHP ?
  - a) `Mysqli_connect()` Function
  - b) `Mysqli_close()` Function
  - c) `mysqli_select_data()` Function
  - d) `mysqli_affected_rows()` Function
5. How many parameter are required for MySQLi connect function in PHP ?
  - a) 2
  - b) 3
  - c) 4
  - d) 5
6. How many parameter are required for MySQLi query function in PHP ?
  - a) 2
  - b) 3
  - c) 4
  - d) 5
7. How many parameter are required for MySQLi Close function in PHP ?
  - a) 1
  - b) 2
  - c) 3
  - d) 5
8. Which version of PHP supports MySQLi fuctions ?
  - a) Version 2.0
  - b) Version 3.0
  - c) Version 4.0
  - d) Version 5.0

#### II.SHORT ANSWERS

1. What are the MySQLi function available PHP?
  - ❁ `Mysqli_connect()`function
  - ❁ `Mysqli_close()`function
  - ❁ `Mysqli_query()`function
2. What is MySQLi function?
  - ❖ It is extension in PHP scripting language which gives access to the MYSQL database.
  - ❖ Functions are available for mysqli database connectively and executing SQL queries.

### 3. What are the types MySQLi function available PHP?

- ♣ Database Connections
- ♣ Managing Database Connections
- ♣ Performing Queries
- ♣ Closing Connection

### 4. Difference between Connection and Close function?

Connection function	Close function
Before accessing MySQL database, connect to database server machine via PHP scripting language using Mysqli_connect() function	Mysqli_close() function is used to close an existing open database connection between PHP scripting and MySQL database server
<b>Syntax:</b> mysqli_connect ("server_Name","User_Name","Password", "DB_Name");	<b>Syntax:</b> mysqli_close("Connection Object");

### 5. Give few examples of MySQLi Queries.

- \$con=mysqli\_connect("localhost", "my\_user", "my\_password", "Student\_DB ");
- \$sql="SELECT student\_name student\_age FROM student";
- mysqli\_query(\$con,\$sql);

### 6. What is Connection string?

- Before accessing MySQL Database, connect to Database Server machine via PHP scripting language using MySQLI\_connect()function.

#### Syntax:

- Mysqli\_connect("Server Name ","User Name","Password","DB Name");

## **III.EXPLAIN IN BRIEF ANSWER:**

### 1. Write the Syntax for MySQLi Queries.

#### "MYSQLI\_QUERY"

- It is a function, that helps to execute the SQL query statements in PHP scripting language.

#### Syntax:

- mysqli\_query("Connection Object","SQL Query")

#### Example:

- \$con=mysqli\_connect("localhost","my\_user","my\_password","Student\_DB ");
- \$sql="SELECT student\_name,student\_age FROM student";mysqli\_query(\$con,\$sql);

### 2. Write is the purpose of MySQLi function available.

- ❖ In PHP Scripting language many functions are available for MySQL Database connectivity and executing SQL queries.

- ♣ Mysqli\_connect() Function
- ♣ Mysqli\_close() Function
- ♣ Mysqli\_query()Function

### 3. Write MySQL Connection Syntax with example.

#### Syntax:

```
mysqli_connect ("Server Name ","User Name","Password","DB Name");
```

#### Example:

```
$conn = mysqli_connect($servername, $username, $password,$DB_name);
```

### **IV.EXPLAIN IN DETAIL:**

#### 1. Discuss in detail about MySQL functions with example?

- ❖ In PHP Scripting language many functions are available for MySQL Database connectivity and executing SQL queries.

- ♣ Mysqli\_connect() Function
- ♣ Mysqli\_close() Function
- ♣ Mysqli\_query()Function

#### i). Mysqli\_connect() Function :

- ♣ Before accessing MySQL Database, connect to Database Server machine via PHP scripting language using Mysqli\_connect() Function.

#### Syntax:

```
♣ mysqli_connect("Server Name ","User Name","Password","DB Name");
```

#### ii). Mysqli\_close() Function :

- ♣ mysqli\_close() Function is used to close an existing opened database connection between PHP scripting and MySQL Database Server.

#### Syntax:

```
mysqli_close("Connection Object");
```

#### Example:

```
<?php
$con=mysqli_connect("localhost","$user","$password","SCHOOL_DB");
mysqli_close($con);
?>
```

#### iii). Mysqli\_query()Function

- ♣ The main goal of MySQL and PHP connectivity is to retrieve and manipulate the data from MySQL database server.

- ♣ The SQL query statements help in PHP MySQL extension to achieve the objective of MySQL and PHP connection.
- ♣ "mysqli\_query" is a function that helps to execute the SQL query statements in PHP scripting language.

**Syntax:**

- ♣ mysqli\_query("Connection Object","SQL Query")

**Example:**

- ♣ \$con=mysqli\_connect("localhost","my\_user","my\_password","Student\_DB ");
- ♣ \$sql="SELECT student\_name,student\_age FROM student";mysqli\_query(\$con,\$sql);

**2. Explain in details types of MySQL connection method in PHP?**

**i). Database Connection :**

- ♣ Before accessing MySQL Database, connect to Database Server machine via PHP scripting language using Mysqli\_connect() Function.

**Syntax:**

- ♣ mysqli\_connect("Server Name ","User Name","Password","DB Name");

**ii). Managing Database Connection:**

- ♣ The below code describes managing database connection methods and features.

```
<?php
$servername = "localhost";
$username = "username";
$password = "password";
$db_name = "School_DB";
$conn = mysqli_connect($servername, $username, $password,$db_name);

if (!$conn) {
    die("Connection failed: " . mysqli_connect_error());
}
echo "Connected successfully";
?>
```

- ♣ In the above code snippet, four variables are used to connect to the Database server.

- ♣ They are

\$servername -> Database Server IP address

\$username -> Database Server User Name

\$password -> Database Server Password

\$DB\_Name -> Database Name

- ♣ The mysqli\_connect function uses these variables to connect Database server to PHP.
- ♣ If connection gets fail, output will be printed with MySQL error code.
- ♣ Otherwise connection is success.

### 3. Explain MySQLi Queries with examples?

- ♣ The main goal of MySQL and PHP connectivity is to retrieve and manipulate the data from MySQL database server.
- ♣ The SQL query statements help in PHP MySQL extension to achieve the objective of MySQL and PHP connection.
- ♣ "mysqli\_query" is a function that helps to execute the SQL query statements in PHP scripting language.

#### Syntax:

- ♣ mysqli\_query("Connection Object","SQL Query")

#### Example:

- ♣ \$con=mysqli\_connect("localhost","my\_user","my\_password","Student\_DB ");
- ♣ \$sql="SELECT student\_name,student\_age FROM student";
- ♣ mysqli\_query(\$con,\$sql);

## CHAPTER 10

### INTRODUCTION TO COMPUTER NETWORK

#### **I. CHOOSE THE CORRECT ANSWER:**

1. A set of computers connecting together is called as -----  
 a) Network                      b) Server                      c) Hub                      d) Node
2. Many discussion in an online forum leads to personal attacks and is called  
 a). Hackers                      b). Virus                      c). Online war                      **d). Flame war**
3. Wi-Fi is short name for  
 a) **Wireless Fidelity** b) Wired fidelity                      c) Wired fiber optic                      d) Wireless fiber optic
4. Which among them was challenging to the business people on computer networking  
 a) Hacking                      b) Viruses                      **c) Both a & b**                      d) none of this above
5. Which one of the following is not the social media  
 a) **Gmail**                      b) Facebook                      c) twitter                      d) LinkedIn
6. In mobile network, land areas for network coverage was distributed as  
 a) Firmware                      **b) cells**                      c) Range                      d) Service
7. Which one of the following are harmful to computer?  
 a) Bloggers                      b) Browser                      **c) Hackers**                      d) twitter

#### **II. SHORT ANSWER:**

##### 1. What is Computer Network.

- ❖ A set of computers connected together for the purpose of sharing resources is called as computer networks.

##### 2. Write a short note on Internet.

- ❖ The connection of Individual networks operated by academic persons, industry people, government and private parties.
- ❖ Internet stands for INTER connected Network.

##### 3. What are the common uses of computer network?

- ⚙ Communication
- ⚙ Resource sharing
- ⚙ Information Sharing

##### 4. What is node in computer network?

- ❖ A computer which is connected to a network is called as node.
- ❖ The data transferred between nodes is also called as a source and destination



**III. EXPLAIN IN BRIEF ANSWER:****1. Write a note on Resource sharing?**

- ☉ It allows all kind of programs, equipments and data to be accessed by anyone via network irrespective of the physical location of the resource.
- ☉ Simply resource sharing is a sharing of devices like printers, scanner, PDA, fax machine, and modems.

**2. List out some benefits of social networks.**

- ✿ Group information sharing over long distances.
- ✿ Broadcast announcements.
- ✿ Fostering diversity of thought.

**3. Write a note on mobile network?**

- ☉ It is the network connecting devices without cable (wireless).
- ☉ Mobile computers, such as laptop, tablet, and hand held computers, were fastest growing segments.
- ☉ At land areas network was distributed as cells, each will be served by single - location transceiver, but generally three cell sites or a base transceiver station.
- ☉ This portable transceivers used to communicate with one another with fixed transceivers and moving via more than one cell during transmission.

**IV. EXPLAIN IN DETAIL:****1. Explain uses of computer network**

❖ The common uses of computer network are

- Communication
- Resource sharing
- Information sharing

❖ **Communication:**

- ☉ Using computer networks, we can interact with the different people with each other all over the world.
- ☉ People can easily communicate at very low cost via mobile, social media, telephone, e-mail, chatting, video conferencing, SMS, MMS, groupware etc...

❖ **Resource sharing:**

- ☉ It allows all kind of programs, equipments and data to be accessed by anyone via network irrespective of the physical location of the resource.
- ☉ Simply resource sharing is a sharing of devices like printers, scanner, PDA, fax machine, and modems.

**❖ Information sharing:**

- Using computer network, any application or other software can be stored at a central computer or server.
- The software can be shared among other computers of the network.

**2. Explain about social application in computer network?**

- ♣ To get connected with people around the world through social network media,
- ♣ Applications like Whatsapp, Face book, Twitter, Blogs, Pinterest, Classmate and so on are in full fledge use.
- ♣ **Membership:**
  - Social nets generally requires user to register names and accounts to avoid duplicate and maintain secrecy.
- ♣ **Content contribution:**
  - These networks allow members to easily share comments, audio, video, text, animation files etc with others.
- ♣ **Frequent visits:**
  - ❖ Healthy social net have a group of members who check in regularly to contribute their share and also for new updates.
- ♣ **Relationship building:**
  - The common goal of most social networks is to allow interaction among people, which create stronger connection with people of different communities.

\*\*\*\*\*

## CHAPTER 11

### NETWORK EXAMPLES AND PROTOCOLS

#### I. CHOOSE THE CORRECT ANSWER:

1. Which one of the following will be easy way to use Internet technology and the public telecommunication system to securely share business's information with suppliers, vendors, partners and customers.
  - a) Extranet
  - b) Intranet
  - c) arpanet
  - d) arcnet
2. Match the following and choose the correct answer
  - i. HTTP -The core protocol of the World Wide Web.
  - ii. FTP- enables a client to send and receive complete files from a server.
  - iii. SMTP - Provide e-mail services.
  - iv. DNS- Refer to other host computers by using names rather than numbers.
  - a) i, ii, iii, iv
  - b) ii, iii, iv, i
  - c) iii, iv, i, ii
  - d) iv, iii, ii, i
3. Communication over ----- is be made up of voice, data, images and text messages.
  - a) Social media
  - b) mobile network
  - c) whatsapp
  - d) software
4. Wi-Fi stands for-----
  - a) Wireless Fidelity
  - b) wired fidelity
  - c) wired optic fibre
  - d) wireless optic fibre
5. A TCP/IP network with access restricted to members of an organization
  - a) LAN
  - b) MAN
  - c) WAN
  - d) Intranet
6. RFID stands for -----
  - a) Radio Free identification
  - b) real Frequency identity
  - c) Radio Frequency indicators
  - d) Radio Frequency Identification.
7. It guarantees the sending of data is successful and which checks error on operation at OSI layer is-----
  - a) Application layer
  - b) Network layer
  - c) Transport Layer
  - d) Physical layer
8. Which one of the following will secure data on transmissions?
  - a) HTTPS
  - b) HTTP
  - c) FTP
  - d) SMTP
9. ----- provides e-mail service
  - a) DNS
  - b) TCP
  - c) FTP
  - d) SMTP
10. ----- refer to other host computers by using names rather than numbers.
  - a) DNS
  - b) TCP
  - c) FTP
  - d) SMTP

#### II.SHORT ANSWER:

##### 1. Define Intranet

- It is a private network within an enterprise to share company data and computing resources between the employees.

**2. What are the uses of mobile networks?**

- ❖ Can connect the network without cable
- ❖ Less consumption of power
- ❖ Huge capacity than a large transmitter
- ❖ Covering large area than a single transmitter

**3. List out the benefits of WiFi?**

- ✿ It provides mobility
- ✿ It provides connection to internet
- ✿ Flexibility of LAN
- ✿ Ensures connectivity

**4. Expand HTTP, HTTPS, FTP.**

- HTTP – Hypertext Transfer Protocol
- HTTPS – Hypertext Transfer Protocol Secure
- FTP – File Transfer Protocol

**III. EXPLAIN IN BRIEF ANSWER:****1. Compare Internet, Intranet and Extranet**

Internet	Intranet	Extranet
Public	Private	Private
Large number of connected devices	Limited number of connected devices	Limited number of connected devices over internet
Not owned by anyone	Owned by a particular organization	Owned by one or more organization
WWW, Email, Social media	Departments company organization	Suppliers, customers and vendors

**2. Write short notes on HTTP, HTTPS, FTP.**

- **HTTP** – It is used between a web client and a web server and it guarantees non-secure data transmissions.
- **HTTPS** – It is used between a web client and a web server ensures secure data transmissions.
- **FTP** – It is used between computers for sending and receiving file.

**4. What are the layers available in TCP/ IP Reference Model?**

- ✿ **Network Access Layer** - concerned with building packets.
- ✿ **Internet Layer** - describes how packets are to be delivered.
- ✿ **Transport Layer** - ensure the proper transmission of data.
- ✿ **Application Layer** - application network processes.

**IV. EXPLAIN IN DETAIL:****1. Explain about Internet, Intranet and Extranet.**

<b>Internet</b>	<ul style="list-style-type: none"> <li>• A global network, public TCP/IP network used by over a billion people all over the world.</li> <li>• Example: Sending email to a friend</li> </ul>
<b>Intranet</b>	<ul style="list-style-type: none"> <li>• A TCP/IP network with access restricted to members of an organization.</li> <li>• Example: Accessing your record in the employee personnel file</li> </ul>
<b>Extranet</b>	<ul style="list-style-type: none"> <li>• A TCP/IP network with restricted access to members.</li> <li>• Example: Checking availability of inventory from an outside supplier</li> </ul>

**2. Discuss about OSI model with its layers.**

<b>OSI Layers</b>	<b>Definition</b>
<b>Physical Layer</b>	This is the 1 <sup>st</sup> layer, it defines the electrical and physical specification for devices.
<b>Data Link Layer</b>	This is the 2 <sup>nd</sup> layer it guarantees that the data transmitted. "802.3 for Ethernet" and "802.11 for Wi-Fi".
<b>Network Layer</b>	This is the 3 <sup>rd</sup> layer, determining the path of the data packet is using IP Address.
<b>Transport Layer</b>	This is the 4 <sup>th</sup> layer guarantees the sending data is successful. It includes error checking operation .
<b>Session Layer</b>	This is the 5 <sup>th</sup> layer identifies the system session between different network entities.
<b>Presentation Layer</b>	This is the 6 <sup>th</sup> layer Encryption and decryption protocols occur in this layers such as secure socket layer.
<b>Application Layer</b>	This is the 7 <sup>th</sup> layer it acts the user interface platform comprising of software within the system

**3. Difference between TCP/IP and OSI Reference Model.**

<b>S.NO</b>	<b>TCP/IP</b>	<b>OSI</b>
1	Implementation of OSI model	Reference model
2	4 layers	7 layers
3	Horizontal approach	Vertical approach
4	Supports only connection less communication	Supports connectionless and connection-oriented communication
5	Protocol dependent standard	Protocol independent standard
6	Considered more reliable	Considered a reference tool

\*\*\*\*\*

**CHAPTER 12****DNS(DOMAIN NAME SYSTEM)****I. CHOOSE THE CORRECT ANSWER:**

1. Which of the following is used to maintain all the directory of domain names?  
a) **Domain name system**    b) Domain name space    c) Name space    d) IP address
2. Which of the following notation is used to denote IPv4 addresses?  
a) Binary    b) Dotted-decimal    c) Hexadecimal    d) **a and b**
3. How many bits are used in the IPv6 addresses?  
a) 32    b) 64    c) **128**    d) 16
4. Expansion of URL is  
a) Uniform Resource Location    b) Universal Resource Location  
c) **Uniform Resource Locator**    d) Universal Resource Locator
5. How many types are available in Relative URL?  
a) 2    b) 3    c) 4    d) 5
6. Maximum characters used in the label of a node?  
a) 255    b) 128    c) **63**    d) 32
7. In domain name, sequence of labels are separated by  
a) ;(semicolon)    b) **.(dot)**    c) :(colon)    d) NULL
8. Which of the following initiates the mapping of domain name to IP address?  
a) Zone    b) Domain    c) **Resolver**    d) Name servers
9. Which is the contiguous area up to which the server has access?  
a) **Zone**    b) Domain    c) Resolver    d) Name servers
10. Root name servers are maintained by  
a). IANA    b). ICANN    c). WHOIS    d). DNS

**II. SHORT ANSWERS:**

1. List any four domain names.

- .Com
- .Edu
- .Gov
- .mil

2. What is an IP address?

- \* Increased protocol address is the logical address in the network layer
- \* IP address is also used to find the host system in the whole network

**3. What is an URL?**

- ❖ URL is the address of a document on the Internet.
- ❖ URL is made up four parts protocols, host name, folder name and file name.

**4. List out four URLs you know.**

- ⦿ <http://www.googe.com>
- ⦿ <http://www.yahoo.com>
- ⦿ <http://www.facebook.com>
- ⦿ <http://www.gmail.com>

**5. What is a zone?**

- ✱ A group of contiguous domains and sub domains in the domain name space.

**6. What is a resolver?**

- ♣ A program which is responsible for initiating the translation of a domain name into an IP Address.

**7. Write any four generic Top Level Domains.**

- ✱ Com – Commercial Organization
- ✱ Edu – Educational Institutions
- ✱ Gov –Government
- ✱ Mil – Military groups

**8. Mentioned the components of DNS.**

- ✱ Name space
- ✱ Name server
- ✱ Zone
- ✱ Resolver

**III. EXPLAIN IN BRIEF ANSWER:****1. Write a note on URL and its types.**

- ✱ URL (Uniform Resource Locator) is the address of a document on the Internet.
- ✱ It is made up four parts: protocols, hostname, folder name and file name.
- ✱ **URL Type:**

➤ Absolute URL

➤ Relative URL

**2. Differentiate IPv4 and IPv6.**

IPv4	IPv6
32 bits	128 bits
Binary and dotted-decimal notation	Hexadecimal notation
4billion addresses	16 billion addresses

### 3. What are the differences between Absolute URL and Relative URL?

Absolute URL	Relative URL
Used to link web pages on different websites.	Used to link web pages within the same websites.
Difficult to manage	Easy to manage
Protocols, hostname, folder name and file Name.	Folder name and file name.

### 4. Write a note on domain name.

- It is the sequence of labels.
- In domain name the sequence of labels are separated by dot (.).
- The domain name is always read from the lower level to higher level i.e., from the leaf node to root node.

### IV. EXPLAIN IN DETAIL:

#### 1. Classify and Explain the IP address and its classification.

- ❖ Internet Protocol (IP) address is simply the logical address in the network layer.
- ❖ The door number or flat number is used to differentiate individual house from others in the same apartment.
- ❖ IP address is also used to find the host system in the whole network.

Headings	Internet Protocol Version 4	Internet Protocol version 6
Deployed	1981	1999
Address size	32-bit number	128-bit number
Address format	Dotted decimal notation	Hexadecimal notation
Notation	192.149.252.76	3FFE:F200:0234:AB00 0123:4566:8901:ABCD
Configuration	Manually or DHCP	Auto-configuration or DHCP
Number of Address	$2^{32}$ = 4 billion address	$2^{128}$ – 16 billion address
Address types	Unicast, multicast, broadcast	Unicast, multicast, anycast
Packet fragmentation	Routers and sending hosts	Sending hosts only

#### 2. Explain about the name server? And its types?

##### Name Server:

- Name Server is a main part in the Domain Name System (DNS).
- It translates the domain names to IP addresses.
- The DNS database which consists of domain names and their corresponding IP addresses.
- There is a need to store large number of domain names for the world wide usage.



- So plenty of servers are used in the hierarchical manner.
- Name servers do the important task of searching the domain names.

### Types of Name Servers

#### ● Root Name Server :

- The top level server which contains entire DNS tree, maintained by ICANN.
- There are 13 servers.

#### ● Primary/Master Name Server

- It contains a zone resource records.
- These records are updatable by domain name holders such as organizations.

#### ● Secondary/Slave Name Server:

- It contains a copy of primary server files.
- This server has no authority to update, but reduce the workload of master server by sharing the queries

### 3. Explain how the DNS is working.

- \* The user enters the URL in the browser, the system first checks its DNS cache for the corresponding IP address.
- \* If the IP address is found in the cache then the information is retrieved from cache.
- \* The system needs to query the resolver about the IP address from Internet Service Provider (ISP).
- \* Each resolver has its own cache and if it is found in that then that information is retrieved.
- \* Then the resolver returns the record back to the computer browser which is then viewed by the user.

\*\*\*\*\*

## CHAPTER 13

### NETWORK CABLING

#### I. CHOOSE THE CORRECT ANSWER:

1. ARPANET stands for
  - a) American Research Project Agency Network
  - b) Advanced Research Project Area Network
  - c) Advanced Research Project Agency Network**
  - d) American Research Programs And Network
2. WWW was invented by
  - a) Tim Berners Lee**
  - b) Charles Babbage
  - c) Blaise Pascal
  - d) John Napier
3. Which cable is used in cable TV to connect with setup box?
  - a) UTP cable
  - b) Fibre optics
  - c) Coaxial cable**
  - d) USB cable
4. Expansion of UTP is
  - a) Uninterrupted Twisted Pair
  - b) Uninterrupted Twisted Protocol
  - c) Unshielded Twisted Pair**
  - d) Universal Twisted Protocol
5. Which medium is used in the optical fibre cables to transmit data?
  - a) Microwave
  - b) Infra red
  - c) Light**
  - d) Sound
6. Which of the following is a small peripheral device with a sim slot to connect the computers to Internet?
  - a) USB
  - b) Dongles**
  - c) Memory card
  - d) Mobiles
7. Which connector is used in the Ethernet cables?
  - a) RJ11
  - b) RJ21
  - c) RJ61
  - d) RJ45**
8. Which of the following connector is called as champ connector?
  - a) RJ11
  - b) RJ21**
  - c) RJ61
  - d) RJ45
9. How many pins are used in RJ45 cables?
  - a) 8**
  - b) 6
  - c) 50
  - d) 25
10. Which wiring standard is used for connecting two computers directly?
  - a) Straight Through wiring
  - b) Cross Over wiring**
  - c) Rollover wiring
  - d) None

#### II. SHORT ANSWERS:

1. Write a note on co-axial cable.
  - ♣ Coaxial cables are used for connecting the television with setup box.
  - ♣ This cable is used to transfer the information at 10 mbps speed.
2. What are the uses of USB cables?
  - ♣ Universal Serial Bus, connects all the peripheral devices with the computers.
3. What is an Ethernet port?
  - ♣ The Ethernet port is the jack where the Ethernet cable is to be connected.

- ♣ This port will be there in both the computers and the LAN port.

#### 4. What is the use of Crimping tool?

- ♣ It is a physical tool which is used to connect the patch wire and the Ethernet connector (RJ45).

#### 5. What are the types of twisted pair cables?

- ♣ Shield Twister pair (STP)
- ♣ Unshielded Twisted Pair (UTP)

#### 6. What is meant by champ connector?

- ❖ RJ -21 connector has 50 pins with 25 pins a one end and 25 pins at the other end it is also called as champ connector.

### **III. EXPLAIN IN BRIEF ANSWER:**

#### 1. Write a note on crossover cables.

- ☉ The first colored wire at one end of the cable is the third colored wire at the other end of the cable.
- ☉ It is called crossover cables.

#### 2. Write a short note on RJ45 connector.

- ☉ The RJ45 Ethernet connector is a small plastic cup which will be used to connect the wire inside the connector and ready to use to connect the Internet.

#### 3. What is meant by null modem cable? Give the example?

- A cable interconnecting two devices directly is known as a null modern cable.
- RS-232 cable is also for inter connecting two computers without modern
- So it is also a null modern cable

#### 5. What are the components involved in Ethernet cabling?

- ♠ Patch cable (Twisted pair)
- ♠ RJ45 Connector
- ♠ Ethernet Ports
- ♠ Crimping tool

#### 6. What are the types of Fiber optic cables?

- ☉ There are two types of fiber optic cables are available
- ☉ Single mode
- ☉ Multimode

### **IV. EXPLAIN IN DETAIL:**

#### 1. What is meant by Registered Jack? Explain briefly the types of Jacks.

##### i). Registered Jacks:

- A Registered Jack commonly known as RJ is a network interface used for network cabling, wiring and jack construction.
- The primary function of the registered jack is to connect different data equipment and telecommunication devices.
- The registered jack refers to the male physical connector (Plug), a female physical connector (Jack) and it's wiring.

#### ii). Types:

- RJ-11
- RJ-45
- RJ-21
- RJ-28.

#### iii). Explanation:

##### i). RJ-11:

- ♣ It is the most popular modern form of registered jack.
- ♣ It is found in home and office.
- ♣ This registered jack is mainly used in telephone and landlines.
- ♣ There are 6 pin where 2 pin give transmission configuration and another 2 pin give receiver configuration.

##### ii). RJ-14 and RJ-61:

- ♣ The RJ-14 is the same as RJ-11 which will be used for telephone lines which has 6 pins.
- ♣ This RJ-61 will use the twisted pair cable with a modular 8 connection.

##### iii). RJ-21:

- ♣ The RJ-21 connector has 50 pins with 25 pins at one end and 25 pins at the other end.
- ♣ It is also called as champ connector or Amphenol connector.
- ♣ The Amphenol is a connector manufacturer.
- ♣ The RJ-21 interface is typically used for data communication trucking applications.

## 2. Explain the components used in Ethernet cabling.

- Ethernet cabling is the process of connecting the computers with other devices using Ethernet cables.
- The four main components used in the Ethernet cabling components are
  - \* Patch Cable (Twisted pair)
  - \* RJ45 Connector
  - \* Ethernet Ports
  - \* Crimping Tool

#### i). Patch Cable (Twisted Pair):

- \* These Cables are generally made up of 8 wires in different colors.
- \* Four of them are solid colours, and the others are striped.

- \* The eight colors are white green, green, white orange, blue, white blue, orange, white brown and brown.

#### ii). RJ45 connector:

- ♣ In RJ45 the "RJ" stands for the Registered Jack and the "45" simply refers to the number of interface standard.
- ♣ It is a Small plastic cup.
- ♣ It has eight pins

#### iii). Ethernet card and Port:

- ♣ Ethernet port is an opening which is a part of an Ethernet card.
- ♣ It accepts RJ45 connector with Ethernet cable.
- ♣ It is found on personal computers, laptops, routers, switches.

#### iv). Crimping Tool:

- ♣ It is a physical tool which is used to connect the patch wire and the Ethernet connector
- ♣ The crimping tool looks like a small cutting handle with two mold of Ethernet port.

### 3. Explain the types of network cables?

- ♣ There are many types of cables available in the networking.
- ♣ Here we are going to discuss about six different types of cables.

#### i). Coaxial Cables:

- ❖ It is used to connect the television sets to home antennas.
- ❖ This cable is used to transfer the information in 10 mbps.
- ❖ The cable is divided into thinnet and thicknet cables.

#### ii). Twisted Pair Cables:

- ❖ It is type of cable with two or more insulated wires twisted together.
- ❖ It started with a speed of 10 mbps (10BASE-T cable is used).
- ❖ There are two types of twisted pair cables, Unshielded Twisted Pair (UTP) and Shielded Twisted pair (STP).

#### iii). Fiber Optics:

- ❖ These cable strands of glass and pulse of light is used to send the information.
- ❖ They are mainly used in wide area network.
- ❖ These cables are placed in deep underground to avoid any damage to the cables.
- ❖ Single mode cables used for long distance transmission and at a high cost.
- ❖ Multi-mode cables are used for short distance transmission at a very low cost.

#### iv). USB Cables:

- ❖ The Universal Serial Bus is used to connect keyboard, mouse and other peripheral devices.
- ❖ To connect the Internet through the USB called dongles.



**CHAPTER 14****OPEN SOURCE CONCEPTS****I. CHOOSE THE CORRECT ANSWER:**

1. If the source code of a software is freely accessible by the public, then it is known as  
 a) Freeware                      b) Firmware                      c) **Open source**                      d) Public source
2. Which of the following is a software program that replicates the functioning of a computer network?  
 a) Network software                      b) **Network simulation**  
 c) Network testing                      d) Network calculator
3. Which of the following can document every incident that happened in the simulation and are used for examination?  
 a) Net Exam                      b) Network hardware                      c) **Trace file**                      d) Net document
4. Which is an example of network simulator?  
 a) simulator                      b) TCL                      c) **Ns2**                      d) C++
5. Choose the Correct Pair from the following to build NS2  
 a) UNIX & TCL                      b) UNIX & a. C++                      c) **C++ & OTcl**                      d) C++ & NS2
6. Which of the following is not network simulation software?  
 a) Ns2                      b) OPNET                      c) SSFNet                      d) **C++**
7. Which of the following is a open source network monitoring software?  
 a) C++                      b) OPNET                      c) **Open NMS**                      d) OMNet++
8. Open NMS was released in .....

- a) 1999                      b) 2000                      c) 2003                      d) 2004

**II. SHORT ANSWERS:**

1. What is open source software?

- ☛ Open Source denotes to some program whose source code is made available for usage or reform as users or other developers see appropriate

2. What is meant by network simulator?

- ☛ It is a software program that replicates the functioning of a computer network.

3. What is trace file?

- ☛ A significant output of simulations is the trace files.
- ☛ It can document every incident that happened in the simulation and are used examination.

4. Write short notes on NS2.

- ☛ OTCL and C++ used to create and run NS2.
- ☛ It works on windows and Linux that supports wired or wireless network.

### 5. Write short note on Open NMS?

- Open Network Management System is a free and open-source initiative grade network monitoring and management platform.

### **III. EXPLAIN IN BRIEF ANSWER:**

#### 1. What are the uses of Open source Network Software?

- ♣ Select and use any software
- ♣ Without any cost and restrictions
- ♣ Software are very user friendly
- ♣ Program writing skills.

#### 2. Explain Free software.

- ♣ Free software is a concept developed in the 1980s by an MIT computer science researcher, Richard Stallman who defined four conditions - as outlined by the nonprofit Free Software Foundation.
- ♣ It enhances the ability of users to use and enjoy software as they see fit.

#### 3. List out the Popular open source software.

NS2	Open Office
OPEN NMS	ANDROID
MySQL	PHP
PDF Creator	FIREFOX

#### 4. Write note on open source hardware.

- ❖ The computers used by individuals or business organisations may have spy hardwares of rivals.
- ❖ Open source hardware technology helps in such threats.
- ❖ In this technique we get the components of the hardware and its circuit diagram, so that we can remove suspicious spyware if found.

#### 5. Explain Types of Organisations related to Open Source.

- ❖ Apache Software foundation
- ❖ The Document Foundation
- ❖ The Eclipse Foundation
- ❖ Free Software Foundation
- ❖ Linux Foundation
- ❖ Open Course Ware Conortium
- ❖ Open Source Initiative



**IV. EXPLAIN IN DETAIL:****1. Differentiate Proprietary and open source software.**

Proprietary Software	Open Source Software
It is owned by the Individual or organization.	It is developed and tested through open collaboration
The project is managed by developers and programmers	The project is managed by group of individuals or team work
It provides limited scope with restrictions and all	It provides better flexibility and more freedom
Not edit the source code	Edit the source code
Ex: Windows, Mac OS, google earth etc.,	Ex: Android, Firefox, Ubuntu etc.,

**2. List out the Benefits of Open Source Software?**

- ♣ OSS projects are collaboration opportunities that improve skills and build connections in the field.
- ♣ Domains that developers can contribute to the open source community include:
  - **Communication tools.**
  - **Distributed revision control systems.**
  - **Bug trackers and task lists.**
  - **Testing and debugging tools.**
- There are many open source software's. So, we can select and use any software.
- The complete options of the software can be used without any cost and restrictions.
- We can share our ideas with the team, write the required code and share it with many.
- We can learn many ideas and make our program writing skills more efficient.
- Many open source software are very user friendly.

\*\*\*\*\*

## CHAPTER 15

### **E-COMMERCE**

#### **I. CHOOSE THE CORRECT ANSWER:**

1. A company has E-Business if

- a) it has many branches across the world.
- b) it conduct business electronically over the Internet.**
- c) it sells commodities to a foreign country.
- d) it has many employees.

2. Which of the following is not a tangible good?

- a) Mobile
- b) Mobile Apps**
- c) Medicine
- d) Flower bouquet

3. SME stands for

- a) Small and medium sized enterprises**
- b) Simple and medium enterprises
- c) Sound messaging enterprises
- d) Short messaging enterprises

4. The dotcom phenomenon deals with \_\_\_\_\_

- a) Textile industries
- b) Mobile phone companies
- c) Internet based companies**
- d) All the above

5. Which of the following is not correctly matched

- a) The First Wave of Electronic Commerce: 1985 -1990**
- b) The Second Wave of Electronic Commerce: 2004 – 2009
- c) The Third Wave of Electronic Commerce: 2010 – Present
- d) Dotcom burst: 2000 – 2002

6. Assertion (A): The websites of first wave dotcom companies were only in English

Reason (R): The dotcom companies of first wave are mostly American companies.

- a) Both (A) and (R) are correct and (R) is the correct explanation of (A)**
- b) Both (A) and (R) are correct, but (R) is not the correct explanation of (A)
- c) (A) is true and (R) is false
- d) (A) is false and (R) is true

7. Off-shoring means

- a) Work outsourced to a branch of its own company
- b) Work outsourced to new employees
- c) Work outsourced to a third party locally
- d) Work outsourced to a third party outside its own country**

8. G2G systems are classified into

- a) Internal facing and external facing**
- b) Internet facing and Extranet facing
- c) Internal flag and external flag
- d) Internet flag and Extranet flag

9. \_\_\_ host the e-books on their websites.

- a) Bulk-buying sites b) Community sites c) **Digital publishing sites** d) Licensing sites

10. Which of the following is not a characteristic of E-Commerce?

- a) Products cannot be inspected physically before purchase.  
 b) Goods are delivered instantly.  
 c) Resource focus supply side  
 d) **Scope of business is global.**

## **II. SHORT ANSWERS:**

1. Define E-Commerce.

- ☉ It can be described as the process of buying or selling products, service or information via Internet.
- ☉ E-stands for electronic.

2. Distinguish between E-Business and E-Commerce

E-Business	E-Commerce
It's entirely depends on the internet for its every intra and inter company activities.	It is commercial transaction through Internet
it is grounded on technologies such as network infrastructure, messaging and information.	It is limited with monetary transaction using internet
It is superset of E-Commerce	It is a subset of E-Business

3. Differentiate tangible goods and electronic goods with example of your own.

Tangible	Electronic (Intangible)
They have a physical existence	They do not have a physical existence.
Ex: Vehicle, plant, machinery	Ex: Software, Logo, Patent etc.,

4. What is dotcom bubble and dotcom burst?

- ♣ The dotcom bubble was a historic excessive growth.
- ♣ The Dotcom burst Nasdaq-composite stock market index.

5. Write a short note on out-sourcing.

- ☉ Hiring third party service providers to handle business on behalf.
- ☉ If a company's work is hired to another company, it would be termed as outsourcing

## **III. EXPLAIN IN BRIEF ANSWER:**

1. Describe how E-Commerce is related to socio-technological changes.

- ☉ Growth of E-commerce is also related to the socio-technological changes.
- ☉ Increase of users, increase the markets.
- ☉ Technology facilities E-commerce Growth.

**2. Write a short note on the third wave of E-Commerce.**

- \* It is brought on by the mobile technologies.
- \* It connects users via mobile devices for real-time and on demand transaction.
- \* Not only the information is filtered by time, but also the geographic coordinates are used to screen the specific location-tailored information properly.

**3. Explain B2B module in E-Commerce.**

- \* In B2B E-Commerce, commercial transactions take place between different business organizations, through the Internet.
- \* For example, a cycle company may buy tyres from another company for their cycles.
- \* The company also might get the advantages of discounts on bulk purchases.

**4. Write a note on name-your-price websites.**

- ♣ Name-your-own price sites are just like normal retail sites.
- ♣ In contrast, the buyer negotiates with the retailer for a particular product or service.
- ♣ Ex: <https://in.hotels.com/>.

**5. Write a note on physical product dispute of E-Commerce.**

- ⚙ Physical product disputes are a major disadvantage in E-commerce.
- ⚙ It purchase are often made on trust.
- ⚙ This is because, we do not have physical access to the product.

**IV. EXPLAIN IN DETAIL:**

**1. List all the E-Commerce business models and explain any four briefly.**

- |                                |                                  |
|--------------------------------|----------------------------------|
| ❖ Business to Business (B2B)   | ❖ Consumer to Government (C2G)   |
| ❖ Business to Consumer (B2C)   | ❖ Government to Business (G2B)   |
| ❖ Business to Government (B2G) | ❖ Government to Consumer (G2C)   |
| ❖ Consumer to Business (C2B)   | ❖ Government to Government (G2G) |
| ❖ Consumer to Consumer (C2C)   |                                  |

**i). Business to Business (B2B)**

- ⚙ In B2B E-Commerce, commercial transactions take place between different business organizations, through the Internet.
- ⚙ For example, a cycle company may buy tyres from another company for their cycles.

**ii). Business to Consumer (B2C)**

- ⚙ In B2C E-Commerce, commercial transactions take place between business firms and their consumers.
- ⚙ It is the direct trade between companies and end-consumers via the Internet.
- ⚙ Example: A book company selling books to customers.

**iii). Business to Government (B2G)**

- ✿ B2G is a business model that refers to business organizations sells products, services or information to Governments.
- ✿ Example: The Government or its administration buys laptops for students.

**iv). Consumer to Business (C2B)**

- ✿ C2B is websites generate revenue through affiliate links, sponsored advertisement r even a small commission in every booking.
- ✿ Example: Name-your price websites.

**2. Explain any five E-Commerce revenue models.****i). Auction site:**

- ♣ It is a kind of website, that auctions items on the Internet and levies some commission from the sales.
- ♣ e.g. <https://www.ebay.com/>

**ii). Banner advertisement site:**

- It displays advertisements of other companies in its websites and thereby earns revenue.

**iii). Bulk-buying sites:**

- ♣ It collect a number of users together where every one wants to buy similar items - the site negotiates a discount with the supplier and takes commission.
- ♣ e.g. <https://www.alibaba.com/>

**iv). Digital publishing sites:**

- It effectively host the e-books or magazines on the web. They make profits in a number of ways such as advertising, selling etc.,
- E.g: <https://wordpress.org/>

**v). Licensing sites:**

- It allow other websites to make use of their software. For example, the search engines which allow a visitor of the site to search within the website more easily.

**3. How would you differentiate a traditional commerce and E-Commerce? (any5)**

Traditional Commerce	E-Commerce
• Traditional commerce is buying or selling of products and services physically.	• E-Commerce carries out commercial transactions electronically on the Internet.
• Customer can face to face identify, authenticate and talk to the merchant.	• Neither customer nor merchant see the other.
• Scope of business is limited to particular area.	• Scope of business is global. Vendors can expand their business Worldwide.

• Resource focus Supply side.	• Resource focus Demand side.
• Business Relationship is Linear.	• Business Relationship is End-to-end.
• Marketing is one way marketing.	• One-to-one marketing.
• Payment is made by cash, cheque, cards etc.	• Payment system is mostly through credit card, debit card or fund transfer.
• Most goods are delivered instantly.	• It takes time to transport goods.

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**CHAPTER 16****ELECTRONIC PAYMENT SYSTEM****I. CHOOSE THE CORRECT ANSWER:**

1. Based on the monetary value e payment system can be classified into
  - a) Mirco and Macro
  - b) Micro and Nano
  - c) Maximum and Minimum
  - d) Maximum and Macro
2. \_\_\_\_\_ refers to payment made from one bank account to another bank account using electronic methods.
  - a). Electronic payment
  - b). Direct payment
  - c). Indirect payment
  - d). None of these
3. Assertion (A): Micro electronic payment systems support higher value payments.  
Reason (R): Expensive cryptographic operations are included in macro payments
  - a) Both (A) and (R) are correct and (R) is the correct explanation of (A)
  - b) Both (A) and (R) are correct, but (R) is not the correct explanation of (A)
  - c) (A) is true and (R) is false
  - d) (A) is false and (R) is true
4. Which of the following is correctly matched?
  - a) Credit Cards - pay before
  - b) Debit Cards - pay now
  - c) Stored Value Card - pay late
  - d) Smart card - pay anytime
5. ECS stands for
  - a) Electronic Clearing Services
  - b) Electronic Cloning Services
  - c) Electronic Clearing Station
  - d) Electronic Cloning Station
6. Which of the following is a online payment system for small payments.
  - a) Card based payment
  - b) Micro electronic payment
  - c) Macro electronic payment
  - d) Credit card payment
7. Which of the following is true about Virtual payment address (VPA)
  - a) Customers can use their e-mail id as VPA
  - b) VPA does not includes numbers
  - c) VPA is a unique ID
  - d) Multiple bank accounts cannot have single VPA
8. Pick the odd one in the credit card transaction
  - a) card holder
  - b) merchant
  - c) marketing manager
  - d) acquirer
9. Which of the following is true about debit card?
  - i. Debit cards cannot be used in ATMs
  - ii. Debit cards cannot be used in online transactions
  - iii. Debit cards do not need bank accounts
  - iv. Debit cards and credit cards are identical in physical properties
  - a) i, ii, iii
  - b) ii, iii, iv
  - c) iii alone
  - d) iv alone

## 10. Match the following

List A	List B
A1) First Digit	B1) Account number
A2) 9th to 15th Digit	B2) MII Code
A3) First 6 Digits	B3) BIN Code
A4) Last Digit	B4) Check digit

	A1	A2	A3	A4
a)	B4	B3	B2	B1
b)	B2	B1	B3	B4
c)	B2	B3	B4	B1
d)	B2	B4	B3	B1

**II. SHORT ANSWERS:**

## 1. Define electronic payment system

- ♣ It refers to a payment made from one bank account to another bank account using electronic methods.

## 2. Distinguish micro electronic payment and macro electronic payment

Micro electronic payment	Macro electronic payment
On-line payment system designed to allow efficient and frequent payments of small amounts.	Macro electronic payments systems support payments of higher value.
In order to keep transaction costs very low, the communication and computational costs are minimized here.	The security requirements are more rigorous in macro payments systems because of huge money transaction.

## 3. Explain the concept of e-wallet

- ❖ Electronic purses allow users to make electronic transactions quickly and securely.

## 4. Write a short note on credit-card?

- ⊛ Credit card is an electronic payment system normally used for retail transactions.
- ⊛ It plays a major role in electronic payment system worldwide.
- ⊛ Every credit card account has a purchase limit set by the issuing bank.

## 5. What is smart card?

- ♣ The modern version of card based payment is smart cards.
- ♣ It's along with the regular features of any card based payment system holds a EMV chip.
- ♣ It can provide identification, authentication data storage and application processing.



**III. EXPLAIN IN BRIEF ANSWER:****1. Define micro electronic payment and its role in E-Commerce.**

- It is an on-line payment system designed to allow efficient and frequent payments of small amounts.

**Role in E-Commerce:**

- Electronic payment for online transactions.
- Increasingly popular due to the widespread use of the internet-based shopping and banking.

**2. Compare and contrast the credit card and debit card.**

Credit Card	Debit card
Credit card is pay later	Debit card is pay now
Interest is charged	No interest is charged
To pay the credit card bill within 30 days of every month	The amount is directly deducted from the customer's account

**3. Explain briefly Anatomy of a credit card.**

- Plastic cards of size - 85.60 mm width x 53.98 mm height
- Rounded corners with a radius - 2.88 mm to 3.48 mm
- Thickness - 0.76 mm

**4. Briefly explain the stored value card and its types.**

- ♣ It is a type of debit card that is pay before. Customers don't need to have a bank account.
- ♣ Types:
- ♣ Closed loop (single purpose) Ex: Chennai metro rail travel card.
- ♣ Open loop (multipurpose) Ex: Visa Gift cards

**5. What is electronic fund transfer?**

- Electronic Funds Transfer (EFT) is the "electronic transfer" of money over an online network.
- The amount sent from the sender's bank branch is credited to the receiver's bank branch on the same day in batches.
- EFT saves the effort of sending a demand draft through post and the inherent delay in reaching the money to the receiver.

**IV. EXPLAIN IN DETAIL:****1. Explain the key players of a credit card payment system and bring out the merits of it.****i). Credit card:**

- It is an electronic payment system normally used for retail transactions.

- ☉ It enables the bearer to buy goods or services from a vendor, based on the cardholder's promise to the card issuer to payback the value later with an agreed interest.

## ii). Key players in operations of credit card

### ♣ Bearer:

- The holder of the credit card account who is responsible for payment of invoices in full or a portion of the balance.

### ♣ Merchant:

- Storekeeper or vendor who sell or providing service, receiving payment made by its customers through the credit card.

### ♣ Acquirer:

- Merchant's bank that is responsible for receiving payment on behalf of merchant send authorization requests to the issuing bank through the appropriate channels.

### ♣ Credit Card Network:

- It acts as the intermediate between the banks.
- Its for communicating the transaction between the acquirer and the credit card issuer.
- E.g. Visa, MasterCard, Rupay

### ♣ Issuer:

- Bearer's bank, that issue the credit card, set limit of purchases, decides the approval of transactions, issue invoices for payment, charges the holders.

## iii). Merits of credit card:

- ♣ Most credit cards are accepted worldwide.
- ♣ It is not necessary to pay physical money at the time of purchase.
- ♣ The customer gets an extra period to pay the purchase.
- ♣ Depending on the card, there is no need to pay annuity.
- ♣ Allows purchases over the Internet in installments.

## 2. Write a note on a. Internet banking      b. Mobile banking

### a). Internet banking:

- ☉ It is a collective term for E-banking, online banking, virtual banking, direct banks, web banking and remote banking.
- ☉ It allows customers of a financial institution to conduct various financial transactions on a secure website.

### b). Mobile Banking:

- ☉ Mobile banking is another form of net banking.

- It refers to the services provided by the bank to the customer to conduct banking transactions with the aid of mobile phones.
- These transactions include balance checking, account transfers, payments, purchases, etc.
- Transactions can be done at anytime and anywhere.

### 3. Explain in detail: Unified payments interface.

- ✦ It is a real-time payment system developed by National Payments Corporation of India to facilitate inter-bank transactions.
- ✦ It is simple, secure and instant payment facility.
- ✦ UPI is developed on the basis of Immediate Payment Service.
- ✦ To initiate a transaction, UPI applications use two types of address - global and local.
- ✦ Global address includes bank account numbers and IFSC.
- ✦ Local address is a virtual payment address.
- ✦ UPI allows operating multiple bank accounts in a single mobile application.

#### Advantages

- ✦ Immediate money transfers through mobile device round the clock 24 x 7.
- ✦ Can use single mobile application for accessing multiple bank accounts.
- ✦ Single Click Authentication for transferring of fund.
- ✦ It is not required to enter the details such as Card no, Account number, IFSC etc. for every transaction.
- ✦ Electronic payments will become much easier without requiring a digital wallet or credit or debit card.

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**CHAPTER 17****E-COMMERCE SECURITY SYSTEM****I. CHOOSE THE CORRECT ANSWER:**

1. In E-Commerce, when a stolen credit card is used to make a purchase it is termed as
  - a) Friendly fraud
  - b) Clean fraud**
  - c) Triangulation fraud
  - d) Cyber squatting
2. Which of the following is not a security element involved in E-Commerce?
  - a) Authenticity
  - b) Confidentiality
  - c) Fishing**
  - d) Privacy
3. Asymmetric encryption use \_\_\_\_\_ keys for encryption and decryption
  - a) Same
  - b) Different
  - c) Positive
  - d) Negative
4. The security authentication technology does not include
  - i) Digital Signatures
  - ii) Digital Currency
  - iii) Digital Image
  - iv) Digital Certificates
  - a) i, & iv
  - b) ii & iii
  - c) i, ii & iii
  - d) all the above
5. PGP stands for
  - a) Pretty Good Privacy
  - b) Pretty Good Person
  - c) Private Good Privacy
  - d) Private Good Person
6. \_\_\_\_\_ protocol is used for securing credit cards transactions via the Internet
  - a) Secure Electronic Transaction (SET)**
  - b) Credit Card Verification
  - c) Symmetric Key Encryption
  - d) Public Key Encryption
7. Secure Electronic Transaction (SET) was developed in
  - a) 1999
  - b) 1996**
  - c) 1969
  - d) 1997
8. The websites secured by Secure Socket Layer protocols can be identified using
  - a) html://
  - b) http://
  - c) https://
  - d) https://**
9. \_\_\_\_\_ is the process of converting plain text into meaningless cipher text
  - a) Encryption**
  - b) Decryption
  - c) Digital certificate
  - d) Digital signature
10. Which of the following is true about Ransomware
  - a) Ransomware is not a subset of malware
  - b) Ransomware deletes the file instantly
  - c) Typopiracy is a form of ransomware
  - d) Hackers demand ransom from the victim**

**II. SHORT ANSWERS:**

1. Write about information leakage in E-Commerce.

- ☉ The content of the transaction between the **vendor and customer** is stolen by the third party.
- ☉ The documents provided by the merchant to the customer or **illegally used by the another**

## 2. Write a short note on Typopiracy.

- Some **fake websites** try to take advantage of users common **typographical errors** typing a **website address** and direct users to a different website.
- Ex: [www.goggle.com](http://www.goggle.com), [www.faceblook.com](http://www.faceblook.com)

## 3. Write about phishing.

- ✿ It is acquiring critical data like login credentials through telephone, sms, e-mail or any social media by the crackers disguising as authentic

## 4. List the different types of security technologies in E-Commerce

- ❖ Encryption technology
- ❖ Authentication technology
- ❖ Authentication protocols

## 5. Write about digital signature.

- ✿ A digital signature is a mechanism that is used to verify that a **particular digital document, message or transaction** is authentic.

## III. EXPLAIN IN BRIEF ANSWER:

### 1. What is E-commerce Security System?

- ♣ It is a set of protocols that safely guide E-commerce transaction through the Internet.
- ♣ Security has become a critical factor and core issue in the emerging E-business.
- ♣ Solving the security problems in transaction is the basis for ensuring the smooth development of E-business

### 2. List any two E-Commerce Security Threats?

#### i). Malicious code threats:

- ❖ Within an E-Commerce site, there are multiple vulnerable areas that can serve as an intrusion point for a hacker to gain payment and user information.
- ❖ Using malware, Cross Site Scripting or SQL Injection, an attacker will extract the credit card information and sell the acquired data on black markets.

#### ii). Distributed Denial of Service (DDoS) Attacks:

- ❖ It is a process of taking down an E-Commerce site by sending continuous overwhelming request to its server.
- ❖ This attack will be conducted from numerous unidentified computers using botnet.

### 3. Write a note on asymmetric key encryption?

- ✱ Different keys are used for encryption and decryption.
- ✱ Speed of encryption or decryption is comparatively slow
- ✱ The size of cipher text is always greater than plain text.
- ✱ Algorithms like RSA, ECC, DSA use asymmetric key encryption

#### 4. Write a note on digital certificate?

- A digital certificate is an electronic document used to prove the ownership of a public key.
- This certificate includes the information about the sender's identity, digital signature and a public key.
- Digital certificates are issued by recognized Certification Authorities (CA).

#### 5. Write about Plain Text and Cipher Text?

##### i). Plain Text:

- It is the unencrypted information also called as input chip.

##### ii). Cipher Text:

- It is encrypted data usually the output of an algorithm

### IV. EXPLAIN IN DETAIL:

#### 1. Write about dimensions of E-Commerce Security.

- ❖ **Authenticity:** conforming genuineness of data shared.
- ❖ **Availability:** prevention against data delay or removal.
- ❖ **Completeness:** unification of all business information.
- ❖ **Confidentiality:** protecting data against unauthorized disclosure.
- ❖ **Effectiveness:** effective handling of hardware, software and data.
- ❖ **Integrity:** prevention of the data being unaltered or modified.
- ❖ **Non-repudiation:** prevention against violation agreement after the deal.
- ❖ **Privacy:** Prevention of customers personal data being used by others.
- ❖ **Reliability:** providing a reliable identification of the individuals or businesses.
- ❖ **Review ability:** capability of monitoring activities to audit and track the operations

#### 2. Differentiate symmetric key and asymmetric key encryption.

Symmetric Key	Asymmetric Key
Same key is used for both encryption and decryption	Different keys are used for encryption and decryption
Speed of encryption or decryption is very fast	Speed of encryption or decryption is comparatively slow
Plain text and cipher text are of same size	The size of cipher text is always greater than plain text.
Algorithms like DES, AES, RC4 uses symmetric key encryption	Algorithms like RSA, ECC, DSA use asymmetric key encryption
Provides confidentiality	Provides confidentiality, authenticity and non-repudiation

### 3. Explain authentication protocols?

- At present, there are two kinds of security authentication protocols widely used in E-Commerce. These are

#### i). Secure Electronic Transaction:

- ♣ It is a security protocol for electronic payments with credit cards, in particular via the Internet.
- ♣ SET was developed in 1996 by VISA and MasterCard, with the participation of GTE, IBM, Microsoft and Netscape.
- ♣ The implementation of SET is based on the use of digital signatures.
- ♣ The encryption of transmitted data with asymmetric and symmetric encryption algorithms.
- ♣ SET also use dual signatures to ensure the privacy.

#### ii). Secure Sockets Layers:

- ♣ It is the most common Cryptographic protocol.
- ♣ SSL is a hybrid encryption protocol for securing transactions over the Internet.
- ♣ The SSL standard was developed by Netscape in collaboration with MasterCard, Bank of America, MCI and Silicon Graphics.
- ♣ It is based on a public key cryptography process to ensure the security of data transmission over the internet.
- ♣ Its principle is to establish a secure communication channel between a client and a server after an authentication step.

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## CHAPTER 18

### ELECTRONIC DATA INTERCHANGE - EDI

#### I. CHOOSE THE CORRECT ANSWER:

1. EDI stands for
 

a) Electronic Details Information	b) Electronic Data Information
c) <b>Electronic Data Interchange</b>	d) Electronic Details Interchange
2. Which of the following is an internationally recognized standard format for FDI?
 

a) TSLFACT	b) SETFACT	c) FTPFACT	d) <b>EDIFACT</b>
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3. Which is the first industry-specific EDI standard?
 

a) TDCC	b) VISA	c) Master	d) ANSI
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4. Which of the following is a type of EDI?
 

a) <b>Direct EDI</b>	b) Indirect EDI	c) Collective EDI	d) Unique EDI
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5. Who is called as the father of EDI?
 

a) Charles Babbage	b) <b>Ed Guilbert</b>	c) Pascal	d) None of the above
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#### II. SHORT ANSWERS :

1. Define EDI.
  - ✿ The Electronic Data Interchange is the exchange of business documents between one trade partner and another electronically
2. List few types of business documents that are transmitted through EDI.
  - Delivery notes
  - Invoices
  - Purchase orders
  - Advance ship notice
  - Functional acknowledgements
3. Write any two EDI standards?
  - ✿ Basic Standards
  - ✿ Document Standards
  - ✿ Management Standards
  - ✿ Application Standards

#### III. EXPLAIN IN BRIEF ANSWER:

1. Write a short note on EDI via VAN.
  - ✿ It is where EDI documents are transferred with the support of third party network service providers.



- ♣ Many business prefer this network model to protect them from the updating ongoing complexities if network technologies.

## 2. List the various layers of EDI.

- Semantic layer
- Standards translation layer
- Transport layer
- Physical layer

## 3. Write a note on UN/EDIFACT.

- ✿ United Nations/Electronic Data Interchange For Administration, Commerce and Transport (UN/EDIFACT) is an International EDI – standard developed under the supervision of the United Nations.
- ✿ In 1987 the UN/EDIFACT syntax rules were approved as ISO: Iso9735.
- ✿ It is a cross industry standard data format of electronic data for commercial transactions.

## **IV. EXPLAIN IN DETAIL:**

### 1. Briefly explain types of EDI.

#### ❖ Direct EDI/Point-to-Point:

- It is also called as Point-to-Point EDI.
- It establishes a direct connection between various business stakeholders and partners individually.

#### ❖ EDI via VAN:

- EDI via VAN (Value Added Network) is where EDI documents are transferred with the support of third party network service providers.

#### ❖ EDI via FTP/VPN, SFTP,FTPS:

- When protocols like FTP/VPN, SFTP and FTPS are used for exchange of EDI based documents through the Internet or Intranet.

#### ❖ Web EDI:

- Web based EDI conducts EDI using and web browser via the Internet.
- To use any browser to transfer data to their business partners.
- Web based EDI is easy and convenient for small and medium organizations.

#### ❖ Mobile EDI:

- Smart phones or other such handheld devices are used to transfer EDI documents.
- It is called as mobile EDI.
- Mobile EDI applications considerably increase the speed of EDI transactions.

## 2. What are the advantages of EDI?

- ❖ Improving service to end users
- ❖ Increasing productivity
- ❖ Minimizing errors
- ❖ Slashing response times
- ❖ Automation of operations
- ❖ Cutting costs
- ❖ Integrating all business and trading partners
- ❖ Providing information on process status
- ❖ Optimizing financial ratios

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ALL THE BEST  
FOR YOUR  
EXAMINATION**