



ISDM (INDEPENDENT SKILL DEVELOPMENT MISSION)

INTRODUCTION TO THE INTERNET

1. What is the Internet?

The **Internet** is a global network that connects millions of computers and electronic devices worldwide. It allows users to **send and receive information, communicate, access websites, and share data** in real-time.

Key Features of the Internet

- ✓ **Global Connectivity** – Connects people across the world.
- ✓ **Instant Communication** – Email, messaging, video calls.
- ✓ **Information Sharing** – Websites, blogs, social media.
- ✓ **E-Commerce & Banking** – Online shopping and financial transactions.
- ✓ **Entertainment** – Streaming videos, music, and online gaming.

Basic Components of the Internet

- **Web Browsers** (Chrome, Firefox, Edge) – To access web pages.
- **Websites & Web Pages** – Digital content hosted on the internet.
- **Search Engines** (Google, Bing, Yahoo) – To find information quickly.
- **Online Services** – Email, cloud storage, social media, banking.

2. History & Evolution of the Internet

The Internet has evolved significantly from its early days to its present form.

Key Milestones in Internet Evolution

Year	Event
1960s	ARPANET (Advanced Research Projects Agency Network) was developed by the U.S. Department of Defense – considered the foundation of the Internet.
1983	TCP/IP protocol was introduced, standardizing internet communication.
1989	Tim Berners-Lee invented the World Wide Web (WWW) .
1991	The first website was created by Tim Berners-Lee.
1993	The first web browser, Mosaic , was developed, making the Internet accessible to the public.
1995	Commercial websites and online services like Amazon and eBay were launched.
2000s	The rise of social media (Facebook, YouTube, Twitter) and high-speed broadband revolutionized communication.
2010s-Present	The Internet is now driven by mobile technology, cloud computing, and artificial intelligence (AI) .

Fun Fact:

The first-ever email was sent in **1971** by Ray Tomlinson!

3. How the Internet Works?

The Internet operates using multiple technologies and infrastructure components.

Key Elements of the Internet

Component	Function
Internet Service Provider (ISP)	Companies that provide internet access (e.g., Jio, Airtel, BSNL).
Servers	Powerful computers that store websites and data.
IP Address	A unique identifier for devices on the internet (e.g., 192.168.1.1).
Domain Name	A user-friendly website address (e.g., www.google.com).
DNS (Domain Name System)	Translates domain names into IP addresses.
Protocols (TCP/IP, HTTP, HTTPS)	Rules that enable communication between computers.

How Data Travels Over the Internet?

1. User enters a website URL (e.g., www.google.com).
2. DNS converts the domain name into an IP address.
3. The request is sent to the server hosting the website.
4. The server processes the request and sends back the webpage data.

5. The browser displays the website on the user's screen.

Example: Understanding an IP Address

An **IP address** is like a home address for a device on the internet.

Example: **216.58.217.46** is the IP address of **Google's server**.

4. Applications & Importance of the Internet

The Internet is used in almost every industry and aspect of life.

Applications of the Internet

❑ Communication & Social Networking

- **Email Services** (Gmail, Outlook)
- **Instant Messaging** (WhatsApp, Telegram)
- **Social Media** (Facebook, Twitter, Instagram)
- **Video Conferencing** (Zoom, Google Meet)

❑ Information & Education

- **Online Learning Platforms** (Udemy, Coursera, Khan Academy)
- **Digital Libraries & Research** (Google Scholar, Wikipedia)
- **News & Media Websites**

❑ E-Commerce & Online Transactions

- **Online Shopping** (Amazon, Flipkart, Myntra)
- **Banking & Digital Payments** (UPI, Paytm, Google Pay)
- **Stock Trading & Cryptocurrency**

4 Entertainment & Media

- **Streaming Videos & Music** (YouTube, Netflix, Spotify)
- **Online Gaming** (PUBG, Fortnite, Minecraft)
- **Podcasts & Blogs**

5 Business & Remote Work

- **Cloud Computing & File Sharing** (Google Drive, Dropbox)
- **Freelancing Platforms** (Upwork, Fiverr)
- **Remote Work & Collaboration** (Slack, Microsoft Teams)

Conclusion: Why is the Internet Important?

- ✓ Bridges the gap between people and information.
- ✓ Enables online education and skill development.
- ✓ Boosts businesses through digital marketing & e-commerce.
- ✓ Provides entertainment and social networking.
- ✓ Enhances efficiency in industries and government sectors.

Quick Recap

- ✓ The Internet is a global network that connects computers and devices.
- ✓ It evolved from **ARPANET (1960s)** to the modern **World Wide Web**.
- ✓ Works using **ISPs, servers, IP addresses, and domain names**.
- ✓ Used for **communication, education, business, entertainment, and transactions**.

 **Assignment****Task 1: Research & Answer the Following**

1. What is an IP address? How does it help in accessing the internet?
2. Explain how search engines like Google work.
3. List 5 ways the Internet has impacted education.

Task 2: Practical Activity

1. Open your browser and find the IP address of any website using this command in the Command Prompt (Windows):
2. nslookup www.google.com
3. Write a short paragraph on how the Internet has transformed your daily life.

 **Next Topic: Web Browsing & Search Techniques** – Learn how to navigate the web efficiently! 

Happy Learning! 

STUDY MATERIAL: INTERNET CONNECTIVITY & WEB BROWSERS

1. Types of Internet Connections

The internet is accessed through different types of connections, each with unique advantages and limitations. Here are the most common types:

Broadband (Wired Internet Connection)

Broadband is a **high-speed wired internet connection** that provides continuous access to the internet.

Types of Broadband Connections:

- **DSL (Digital Subscriber Line):** Uses telephone lines but allows internet and phone usage simultaneously.
- **Fiber Optic:** Offers **high-speed** and **stable** internet, ideal for businesses and gaming.
- **Cable Broadband:** Uses **TV cable lines** for high-speed connectivity.

Advantages of Broadband:

- ✓ Faster than mobile data.
- ✓ Ideal for work, streaming, and gaming.
- ✓ Stable and uninterrupted connection.

Disadvantages:

- ✗ Requires a wired setup.
- ✗ Installation costs may be high.

☒ WiFi (Wireless Internet Connection)

WiFi (Wireless Fidelity) allows multiple devices to access the internet **wirelessly** via a **router**.

✓ How WiFi Works?

- Internet is received via a **broadband connection**.
- A **WiFi router** transmits signals wirelessly to devices like laptops and smartphones.

✓ Advantages of WiFi:

- ✓ No need for physical cables.
- ✓ Can connect multiple devices at once.
- ✓ Allows mobility within the coverage area.

✓ Disadvantages:

- ✗ Signal strength depends on router placement.
- ✗ Speed may fluctuate due to interference.

☒ Mobile Data (4G/5G)

Mobile Data provides internet connectivity using cellular networks (SIM cards).

✓ Types of Mobile Data:

- **3G (Third Generation)** – Older and slower.
- **4G LTE (Fourth Generation)** – Offers **fast speeds** and is widely used.
- **5G (Fifth Generation)** – Ultra-fast speeds, low latency, and best for **smart devices & IoT**.

 **Advantages of Mobile Data:**

- ✓ No need for wired connections.
- ✓ Provides internet access anywhere.
- ✓ Best for on-the-go users.

 **Disadvantages:**

- ✗ Limited data plans may be expensive.
- ✗ Speed depends on network coverage.

2. Introduction to Web Browsers

A **web browser** is software that allows users to access websites on the internet. The most commonly used browsers are **Google Chrome, Mozilla Firefox, and Microsoft Edge**.

Google Chrome

 **Developer:** Google

 **Features:**

- Fast browsing speed
- Sync with Google account
- Huge extension support
- Secure and regularly updated

Mozilla Firefox

 **Developer:** Mozilla Foundation

 **Features:**

- Open-source and privacy-focused

- Customizable themes & extensions
- Faster than many other browsers

Microsoft Edge

 **Developer:** Microsoft

 **Features:**

- Built-in integration with Windows
- **Microsoft Bing AI support**
- **Better performance on Windows devices**

3. How to Browse the Internet Efficiently

Browsing efficiently means **finding information quickly** and **managing multiple websites** without slowing down your workflow.

Tips for Efficient Browsing

 **Use Multiple Tabs:** Open multiple web pages at once.

 **Bookmark Important Websites:** Save frequently visited pages.

 **Use Keyboard Shortcuts:**

- **Ctrl + T** (New Tab)
- **Ctrl + W** (Close Tab)
- **Ctrl + L** (Jump to Address Bar)

 **Enable Auto-fill & Password Manager:** Save login credentials securely.

 **Use Browser Extensions:** Block ads, improve reading mode, and manage productivity.

4. Using Search Engines (Google, Bing, Yahoo)

A **search engine** helps users find information online by entering **keywords or phrases**.

❑ Google (Most Popular Search Engine)

 **Website:** www.google.com

 **Features:**

- **Google Search Operators:**
 - "Keyword" – Exact match search
 - site:example.com – Search within a specific site
 - filetype:pdf – Search for PDFs only
 - **Voice Search & Google Lens** for searching images
-

❑ Bing (Microsoft's Search Engine)

 **Website:** www.bing.com

 **Features:**

- Integrated with **Microsoft Edge & Windows**
 - Offers **rewards** for searching
 - Provides **AI-powered search results**
-

❑ Yahoo (Alternative Search Engine)

Website: www.yahoo.com

Features:

- News and entertainment integrated
- Provides email services (Yahoo Mail)
- Focuses on regional search results

Assignment: Practical Application

 **Task 1:**

Identify and write down which **internet connection** you are using at home.

Mention **pros and cons** of your internet connection.

 **Task 2:**

Open **Google Chrome** and **search** for “Latest Technologies in 2025.”

Use **Google Search Operators** to find a **PDF file** on the topic.

 **Task 3:**

Compare Google, Bing, and Yahoo and write **which one you find better** and why.

Conclusion

In this module, you learned:

- ✓ The **different types of internet connections** (Broadband, WiFi, Mobile Data).
- ✓ The **best web browsers** for accessing the internet.

- ✓ Efficient browsing techniques for better productivity.
- ✓ How to use **Google, Bing, and Yahoo** for effective searches.

🎯 **Next Module: Cybersecurity & Safe Internet Practices** 🚀

Happy Learning! 🎉

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STUDY MATERIAL: EMAIL COMMUNICATION & MANAGEMENT

1. Introduction to Email

What is Email?

Email (Electronic Mail) is a method of exchanging digital messages over the internet. It is widely used for **personal and business communication** due to its speed, reliability, and convenience.

Popular Email Services

Several email providers offer free and paid email services. The most popular ones include:

Email Provider	Website	Features
Gmail	www.gmail.com	15GB free storage, integration with Google services, strong security
Outlook (Hotmail)	www.outlook.com	Integration with Microsoft Office, OneDrive, and Teams
Yahoo Mail	www.yahoo.com/mail	Large free storage, news updates, and calendar

Uses of Email

- ✓ Sending and receiving messages instantly
- ✓ Attaching files, images, and documents
- ✓ Communication for business, education, and job applications
- ✓ Subscribing to newsletters, updates, and online services

2. Creating & Managing an Email Account

Steps to Create an Email Account (Gmail Example)

1. Open your web browser and go to www.gmail.com.
2. Click on "Create an Account".
3. Fill in the required details:
 - **First Name & Last Name**
 - **Username** (Your desired email address)
 - **Password & Confirm Password**
4. Click **Next** and enter your **phone number** for verification.
5. Enter the **verification code** sent to your phone.
6. Fill in additional details like **recovery email**, **date of birth**, and **gender**.
7. Agree to **Google's Terms & Conditions** and click "Create Account".

Managing Your Email Account

- ❖ **Changing Password:** Go to **Account Settings** → **Security** → **Change Password**
 - ❖ **Adding Recovery Email/Phone:** Helps recover the account if you forget your password
 - ❖ **Customizing Email Signature:** Adds a personalized signature at the end of emails
-

3. Composing, Sending & Receiving Emails

How to Compose and Send an Email (Gmail Example)

1. Login to your email account.
2. Click on "Compose" (Gmail) or "New Email" (Outlook/Yahoo).
3. In the "To" field, enter the recipient's email address (e.g., example@email.com).
4. Enter the Subject (Short and meaningful).
5. Type your Message in the main text area.
6. Click "Send" to deliver your email.

Example: Writing a Professional Email

To: manager@company.com

Subject: Application for Software Developer Position

Dear Hiring Manager,

I am interested in applying for the Software Developer position at ABC Company. I have attached my resume and look forward to discussing my qualifications further.

Best Regards,

John Doe

Phone: 9876543210

Receiving Emails

- ✉️ Emails received will appear in the **Inbox**.
 - 📌 If you receive an important email, you can **star it** or **move it to a folder**.
-

4. Email Attachments, Folders, and Spam Management

Attaching Files to Emails

You can attach documents, images, or files while sending an email.

Steps to Attach a File in Gmail:

1. Click "**Compose**" to start a new email.
2. Click the **attachment icon** 📁.
3. Select the file from your computer.
4. Wait for it to upload, then click **Send**.

📌 Attachment Limits:

- Gmail: Up to **25MB**
 - Outlook & Yahoo: Up to **20MB**
 - For larger files, use **Google Drive, OneDrive, or Dropbox** and share the link.
-

Organizing Emails Using Folders & Labels

Managing emails efficiently saves time and improves productivity.

📁 Common Folders in Email Accounts:

Folder Name	Purpose
Inbox	Stores received emails
Sent	Keeps a record of sent emails
Drafts	Stores unsent emails
Spam	Holds suspicious emails
Trash	Deleted emails that can be recovered

📌 Custom Folders/Labels

- In Gmail, create **labels** to categorize emails (e.g., "Work", "Personal", "Invoices").
- In Outlook/Yahoo, create **folders** for organizing emails.

Managing Spam & Unwanted Emails

⚠️ What is Spam?

Spam emails are **unwanted or junk emails**, often promoting products, scams, or phishing attacks.

How to Manage Spam in Gmail:

- ✓ **Mark as Spam:** Select the email → Click "**Report Spam**".
- ✓ **Unsubscribe:** If emails come from a newsletter, click "**Unsubscribe**" at the bottom.
- ✓ **Block Sender:** Go to the email → Click "**More** (:) → **Block Sender**".

5. Assignment: Hands-On Email Practice

Task 1: Create an Email Account

1. Open Gmail/Outlook/Yahoo.
2. Create a new email account.
3. Set up a **profile picture** and **email signature**.

Task 2: Compose and Send an Email

1. Send an email to **your instructor/friend** with the subject: "Practice Email – Internet Course".
2. Attach a small document (PDF/Image).
3. Use "**Cc**" and "**Bcc**" fields in the email.

Task 3: Organize Emails & Manage Spam

1. Move an email to a **custom folder/label**.
2. Report a **spam email**.
3. Unsubscribe from an unwanted email newsletter.

- Submit screenshots of:**
- Email Account Creation**
 - Sent Email with Attachment**
 - Spam Management & Custom Folders**

Conclusion

In this module, you learned:

- ✓ What **email** is and its popular providers.
- ✓ How to **create and manage an email account**.

- ✓ How to compose, send, and receive emails professionally.
- ✓ How to attach files, organize emails, and manage spam.

🎯 **Next Topic:** Cloud Storage & Online File Sharing 🚀

Happy Learning! 🎉

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STUDY MATERIAL: CLOUD COMPUTING & ONLINE FILE STORAGE

Cloud computing has revolutionized the way we store, access, and manage data. This module will help you understand **cloud computing, online file storage solutions, and the importance of cloud backup.**

1. What is Cloud Computing?

Definition

Cloud computing is the delivery of computing services such as storage, servers, databases, networking, and software over the **internet (the cloud)**. It allows users to store data online instead of using local hard drives.

How Does Cloud Computing Work?

1. **Users upload files or data** to a cloud service.
2. **Cloud servers store the data** securely.
3. **Users can access their files** from any device with an internet connection.
4. **Data is synchronized in real-time** across multiple devices.

Types of Cloud Computing

Type	Description	Example Services
Public Cloud	Services offered to multiple users over the internet.	Google Drive, Dropbox, Microsoft OneDrive

Private Cloud	Used by a single organization for better security.	Company-owned data centers
Hybrid Cloud	A combination of public and private cloud.	Businesses using both Google Cloud and on-premise servers

Key Benefits of Cloud Computing

- Access Files Anytime, Anywhere** – No need to carry USB drives.
- Automatic Backups** – Reduces the risk of data loss.
- Collaboration** – Teams can work on the same document in real-time.
- Scalability** – Storage can be increased as needed.
- Security** – Cloud providers use encryption and authentication for protection.

2. Introduction to Google Drive, OneDrive, and Dropbox

Google Drive

Google Drive is a cloud storage service by Google that offers **15GB of free storage**.

Key Features:

- ✓ Store & Access Files** – Documents, images, videos, and backups.
- ✓ Real-time Collaboration** – Works with Google Docs, Sheets, and Slides.
- ✓ Share Files via Links** – Control file permissions (View, Edit, Comment).

- ✓ **Integration with Gmail & Android Phones** – Auto backup photos & emails.

How to Access Google Drive?

1. Go to drive.google.com.
2. Sign in with a Google account.
3. Upload or create new files.

Microsoft OneDrive

OneDrive is Microsoft's cloud storage service, offering **5GB of free storage**.

Key Features:

- ✓ **Integrated with Windows 10 & 11** – Auto-sync files from PC.
- ✓ **Works with Microsoft Office (Word, Excel, PowerPoint)**.
- ✓ **Secure File Sharing** – Password-protected links.
- ✓ **Mobile App** – Access files from anywhere.

How to Access OneDrive?

1. Go to onedrive.live.com.
2. Sign in with a Microsoft account.
3. Upload, download, and manage files.

Dropbox

Dropbox is one of the first cloud storage platforms, offering **2GB of free storage**.

Key Features:

- ✓ Simple File Sharing & Collaboration.
- ✓ Syncs Across All Devices (PC, Mobile, Tablet).
- ✓ Stores Photos, Videos, and Large Files Easily.
- ✓ Supports Third-Party Apps (Slack, Zoom, Trello).

How to Access Dropbox?

1. Go to [dropbox.com](https://www.dropbox.com).
2. Create an account.
3. Upload and organize files.

3. Uploading, Downloading, and Sharing Files

Uploading Files to Cloud Storage

📌 Steps to Upload Files to Google Drive (Similar for OneDrive & Dropbox):

1. Open Google Drive (drive.google.com).
2. Click on "New" > File Upload.
3. Select the file and click Open.
4. The file will be stored in your drive and accessible from any device.

Downloading Files from Cloud Storage

📌 Steps to Download a File:

-
1. Open **Google Drive** and locate the file.
 2. Right-click on the file and select **Download**.
 3. The file will be saved on your computer or mobile.
-

Sharing Files via Cloud Storage

❖ Steps to Share a File Using Google Drive:

1. Right-click the file and click "**Share**".
 2. Enter the email address of the recipient.
 3. Set permissions (**Viewer, Commenter, or Editor**).
 4. Click "**Send**" or copy the link and share.
- ◆ **Example:** A team can work on a shared Google Sheet in real-time.
-

4. Importance of Cloud Backup

A **cloud backup** is a copy of important data stored in the cloud to prevent data loss due to device failure, theft, or cyberattacks.

Why is Cloud Backup Important?

- ✓ **Prevents Data Loss** – No worries if a laptop or phone is lost.
- ✓ **Accessible from Anywhere** – Retrieve files anytime.
- ✓ **Automated Backup** – Saves time and effort.
- ✓ **Safe from Virus Attacks & Ransomware**.

How to Enable Automatic Cloud Backup?

📌 **For Google Drive (Android & PC):**

1. Open **Google Drive App > Settings.**
2. Turn on "**Backup & Sync**".
3. Select **folders to back up automatically.**

📌 **For OneDrive (Windows 10/11):**

1. Open **OneDrive App.**
2. Sign in and select **Backup folders** (Desktop, Documents, Pictures).
3. Files will auto-sync with OneDrive.

📌 **For Dropbox (PC & Mobile):**

1. Install the **Dropbox App.**
2. Enable **Camera Uploads** for auto photo backup.
3. Drag and drop files to sync with Dropbox.

5. Assignment: Practical Cloud Computing Tasks

Task 1: Create a Cloud Storage Account

- ◆ **Sign up for Google Drive, OneDrive, or Dropbox.**

Task 2: Upload and Share a File

1. **Upload a document or image to Google Drive or OneDrive.**
2. **Share the file with a friend or teacher via email or link.**

Task 3: Enable Cloud Backup on Your Mobile

1. Turn on Google Drive Backup or OneDrive Sync.
2. Backup important files (photos, contacts, or notes).

Task 4: Answer the Following Questions

1. What is cloud computing? Name two cloud storage services.
2. How does Google Drive help in real-time collaboration?
3. Why is cloud backup important?

Submit screenshots of the tasks completed!

Conclusion

- ✓ Cloud computing allows users to store and access data online.
- ✓ Google Drive, OneDrive, and Dropbox provide free cloud storage.
- ✓ Users can upload, download, and share files with ease.
- ✓ Cloud backup ensures data security and prevents loss.

➡️ Next Topic: Cybersecurity & Safe Internet Practices – Learn how to stay safe online! 🔒🚀

Happy Learning! 🎉

STUDY MATERIAL: ADVANCED INTERNET APPLICATIONS & SECURITY

Day 6: Social Media & Online Communication

The internet has revolutionized communication through **social media platforms** and **instant messaging apps**. Understanding these tools is essential for networking, marketing, and staying connected while maintaining online safety.

1. Overview of Social Media Platforms

What is Social Media?

Social media refers to websites and applications that enable users to **create, share, and interact** with content and other users.

Popular Social Media Platforms

Platform	Purpose	Key Features
Facebook	Social networking, connecting with friends	Posts, Groups, Messenger, Live Video
Twitter (X)	News, real-time updates, discussions	Tweets, Hashtags, Trending Topics
Instagram	Photo & video sharing	Stories, IGTV, Reels, Direct Messages
LinkedIn	Professional networking & job search	Business profiles, Job Listings, Skill Endorsements

❑ Facebook: Connecting & Networking

 **Website:** www.facebook.com

 **Features:**

- Create personal **profiles** and **pages** for businesses.
- Join **Facebook Groups** for discussions and networking.
- Use **Facebook Messenger** for instant communication.

 **How to Create a Facebook Account:**

1. Visit **Facebook.com** and click **Sign Up**.
2. Enter your **name, email/phone, password, DOB**, and gender.
3. Click **Sign Up** and verify your email/phone number.
4. Upload a **profile picture** and start adding friends!

❑ Twitter (Now X): Real-Time News & Microblogging

 **Website:** www.twitter.com

 **Features:**

- Short **tweets (280 characters)** to share thoughts.
- **Hashtags (#)** help categorize content.
- **Retweets & Replies** for engagement.

 **How to Use Twitter:**

- Create an account and follow users/organizations of interest.
- Post tweets and use hashtags to reach a wider audience.

-
- Engage with trending topics for visibility.
-

Instagram: Photo & Video Sharing

 **Website:** www.instagram.com

 **Features:**

- Post **photos & videos** with filters.
- Share **Stories** that disappear after 24 hours.
- Explore **Reels & IGTV** for long-form videos.

 **How to Post a Picture on Instagram:**

1. Open Instagram and tap  **(Add Post).**
 2. Choose an image from your gallery or take a new one.
 3. Apply filters and add a caption with hashtags.
 4. Click **Share** to post it.
-

LinkedIn: Professional Networking

 **Website:** www.linkedin.com

 **Features:**

- Create a **professional profile** with work experience.
- Connect with **colleagues & industry experts**.
- Apply for **jobs & internships** directly.

 **How to Build a Strong LinkedIn Profile:**

✓ Add a **professional profile picture**.

- ✓ Write a strong **bio & summary**.
 - ✓ List your **skills & achievements**.
 - ✓ Connect with industry professionals.
-

2. Creating & Managing Social Media Accounts

-  **Best Practices for Managing Social Media:**
- ✓ Keep your **profile information updated**.
 - ✓ Post **regularly but thoughtfully**.
 - ✓ Use **privacy settings** to control visibility.
 - ✓ Avoid sharing **personal sensitive data**.
 - ✓ Engage with your audience **positively and professionally**.
-

3. Safe Social Media Practices

Online safety is crucial while using social media.

Common Social Media Risks & How to Avoid Them

Risk	Prevention
Phishing Attacks	Never click on unknown links in messages.
Fake Profiles	Verify accounts before connecting.
Hacking & Data Theft	Use strong passwords & enable 2-Factor Authentication .
Cyberbullying & Harassment	Block/report inappropriate users.

Misinformation & Scams	Fact-check news before sharing.
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✓ Safe Social Media Tips:

- Enable **privacy settings** to limit who sees your posts.
- Avoid sharing **personal details** (address, bank info, etc.).
- Use **strong & unique passwords** for each platform.
- Log out of accounts when using **public/shared devices**.

4. Online Messaging (WhatsApp, Telegram, Messenger)

Messaging apps allow real-time communication via text, voice, and video calls.

❑ WhatsApp: Most Popular Messaging App

- Website:** www.whatsapp.com

- Features:**

- **Text, voice & video calls.**
- **WhatsApp Web** for messaging from a computer.
- **End-to-End Encryption** for secure conversations.

📌 How to Send a Message on WhatsApp:

1. Open WhatsApp and select a contact.
2. Type your message and click **Send**.
3. Use emojis, GIFs, and voice notes for better interaction.

❑ Telegram: Secure Messaging

 **Website:** www.telegram.org

 **Features:**

- **Cloud-based chat history** across devices.
- **Large group chats** (up to 200,000 members).
- **Self-destructing messages** for privacy.

 **Why Use Telegram?**

- ✓ More **secure** than WhatsApp.
- ✓ Supports **large file sharing** (up to 2GB).

Facebook Messenger: Social Media Chatting

 **Website:** www.messenger.com

 **Features:**

- Integrated with **Facebook** for seamless chatting.
- Supports **video calls & group chats**.
- Allows **instant payments** between users.

Assignment: Practical Application

 **Task 1: Create & Manage a Social Media Account**

- ✓ Create a **new social media account** (Facebook, Instagram, LinkedIn, or Twitter).
- ✓ Post something interesting using hashtags.
- ✓ Adjust **privacy settings** to protect your data.

Task 2: Safe Social Media Practices

- Enable **2-Factor Authentication** on your social media accounts.
- Find and change your **privacy settings** to "Friends Only".
- Write down **three best practices** you will follow for online safety.

Task 3: Online Messaging Security

- Send a **WhatsApp/Telegram message** with an image attachment.
- Check and enable **end-to-end encryption** in WhatsApp/Telegram.

Conclusion

In this module, you learned:

- ✓ **Overview of popular social media platforms** (Facebook, Instagram, LinkedIn, Twitter).
- ✓ **How to create & manage social media accounts** for effective networking.
- ✓ **Safe social media practices** to protect your personal data.
- ✓ **Online messaging apps** and how to use them securely.

 **Next Module: E-Commerce & Online Transactions** 

Happy Learning! 

STUDY MATERIAL: E-COMMERCE & ONLINE TRANSACTIONS

E-Commerce has revolutionized the way we buy and sell products and services. This study material provides a **comprehensive understanding of E-Commerce, online buying and selling, digital payments, and online banking security.**

1. What is E-Commerce?

Definition

E-Commerce (Electronic Commerce) refers to the buying and selling of goods and services over the internet. It eliminates the need for physical stores, allowing transactions to be carried out digitally.

Types of E-Commerce

Type	Description	Examples
B2C (Business to Consumer)	Companies sell products/services to customers.	Amazon, Flipkart, eBay
B2B (Business to Business)	Businesses sell to other businesses.	Alibaba, IndiaMART
C2C (Consumer to Consumer)	Individuals sell directly to other individuals.	OLX, Quikr
C2B (Consumer to Business)	Individuals offer services to businesses.	Freelance websites like Fiverr, Upwork

Popular E-Commerce Platforms

1. **Amazon** – Global marketplace for buying/selling products.
 2. **Flipkart** – Indian E-Commerce platform offering various product categories.
 3. **eBay** – Online marketplace for auctions and direct sales.
 4. **Myntra** – Specializes in fashion and lifestyle products.
 5. **Alibaba** – Wholesale and B2B E-Commerce platform.
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2. How to Buy & Sell Online

How to Buy Online

1. **Visit an E-Commerce Website** – Open platforms like **Amazon, Flipkart, or Myntra**.
2. **Search for a Product** – Use keywords to find items.
3. **Check Product Details** – Read specifications, reviews, and ratings.
4. **Add to Cart** – Click on "Add to Cart" for multiple items or "Buy Now" for a single item.
5. **Enter Shipping Details** – Provide your delivery address.
6. **Select Payment Method** – Choose **UPI, Credit/Debit Card, Net Banking, or Cash on Delivery**.
7. **Confirm Order** – Make the payment and track the shipment.

How to Sell Online

1. **Register as a Seller** – Sign up on platforms like **Amazon Seller, Flipkart Seller Hub, or eBay**.

- 2. List Your Products** – Upload images, descriptions, and pricing.
- 3. Manage Orders** – Accept orders and arrange shipping.
- 4. Receive Payments** – Get payments after successful delivery.

Best Practices for Selling Online

- Provide clear **product descriptions** and high-quality images.
- Maintain **competitive pricing** to attract buyers.
- Offer **discounts and deals** to increase sales.
- Respond quickly to **customer queries and reviews**.

3. Digital Payments (UPI, Credit/Debit Cards, Net Banking, PayPal)

Types of Digital Payments

Payment Method	Description	Examples
UPI (Unified Payments Interface)	Instant bank-to-bank transfer using mobile apps.	Google Pay, PhonePe, Paytm
Credit/Debit Cards	Secure online payments using bank cards.	Visa, MasterCard, RuPay
Net Banking	Direct payment from bank accounts via internet banking.	SBI, HDFC, ICICI Net Banking
Mobile Wallets	Digital wallets for fast payments.	Paytm, Amazon Pay, Apple Pay

PayPal	Global payment gateway for international transactions.	Used for freelancers & businesses
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How to Pay Online Securely

- 1. Use Trusted Payment Platforms** – Avoid unfamiliar websites.
- 2. Enable Two-Factor Authentication (2FA)** – Extra security for UPI and card payments.
- 3. Avoid Public WiFi for Transactions** – Hackers can steal financial data.
- 4. Check Website Security** – Look for **HTTPS & Secure Payment Gateways**.
- 5. Never Share OTPs or Card Details** – Keep your banking details private.

4. Online Banking & Security

What is Online Banking?

Online Banking allows users to access bank services via the internet without visiting a physical branch.

Common Online Banking Services

- ✓ **Money Transfers** – NEFT, RTGS, IMPS, UPI
- ✓ **Bill Payments** – Electricity, Water, Mobile Recharge
- ✓ **Investment & Loans** – Fixed Deposits (FD), Recurring Deposits (RD)
- ✓ **Account Management** – View statements, update details

How to Use Online Banking Securely

1. **Use Strong Passwords** – A mix of letters, numbers, and symbols.
2. **Enable OTP-Based Transactions** – Adds an extra security layer.
3. **Avoid Clicking on Unknown Links** – Beware of phishing scams.
4. **Log Out from Shared Computers** – Prevents unauthorized access.
5. **Monitor Transactions Regularly** – Detects fraud or unauthorized activity.

5. Assignment: Hands-On Practical Tasks

Task 1: Buying a Product Online (Simulation)

1. Visit Amazon/Flipkart/Myntra.
2. Select a product and add it to the cart.
3. Choose a **payment method** and complete the order (without actual payment).
4. Take a **screenshot of the checkout page**.

Task 2: Registering as a Seller on an E-Commerce Platform

1. Visit **Amazon Seller Central** or **Flipkart Seller Hub**.
2. Create a **seller account** and list a sample product.
3. Take a **screenshot of your seller dashboard**.

Task 3: Using UPI for a Digital Payment (Demo)

1. Open Google Pay/PhonePe/Paytm.
2. Send ₹10 to a friend or relative.
3. Take a screenshot of the transaction confirmation.

 Submit screenshots of all tasks for evaluation.

6. Conclusion & Key Takeaways

- ✓ E-Commerce enables easy buying & selling on platforms like Amazon & Flipkart.
- ✓ Digital payments (UPI, cards, wallets) make transactions secure & convenient.
- ✓ Online banking provides access to financial services from anywhere.
- ✓ Cybersecurity is essential to avoid fraud & financial loss.

🎯 Next Module: Cybersecurity & Safe Internet Practices. 

Happy Learning! 

STUDY MATERIAL: BLOGGING & CONTENT SHARING

1. Introduction to Blogging Platforms

A **blog** is an online platform where individuals or businesses can publish articles, opinions, tutorials, or news. It helps in **personal branding, business promotion, and knowledge sharing**.

Popular Blogging Platforms

There are several platforms where you can start a blog:

Platform	Best For	Features
Blogger (blogger.com)	Beginners	Free hosting by Google, easy setup
WordPress (wordpress.com / wordpress.org)	Professionals	Customizable, SEO-friendly, plugins available
Medium (medium.com)	Writers & Journalists	Clean design, easy publishing, built-in audience

2. Writing & Publishing a Blog Post

Steps to Write a Blog Post

- 1. Choose a Topic** – Write about something engaging and useful.
- 2. Research & Plan** – Gather information and outline the structure.

3. **Write a Captivating Title** – Keep it clear, informative, and engaging.

4. **Structure the Content:**

- **Introduction** – Introduce the topic and why it matters.
 - **Main Content** – Use **headings, subheadings, bullet points**, and images.
 - **Conclusion** – Summarize the key points and add a call to action (CTA).
5. **Add Media (Images & Videos)** – Make content more attractive and readable.
6. **Proofread & Edit** – Check grammar, spelling, and readability.
7. **Publish & Share** – Post it online and promote it.

Example Blog Post Structure

How to Start a Blog in 2025

Introduction

Blogging is a great way to share ideas, build a brand, and earn money online. This guide will help you start your blogging journey.

Step 1: Choose a Blogging Platform

There are several platforms like Blogger, WordPress, and Medium. WordPress is the most recommended for professional blogging.

Step 2: Select a Niche

Your niche defines the topic of your blog. Popular niches include:

- Technology
- Health & Fitness
- Personal Finance

Step 3: Write Quality Content

Ensure your blog posts are well-researched, engaging, and SEO-friendly.

Conclusion

Starting a blog is easy if you follow the right steps. Pick a platform, write great content, and share it on social media to grow your audience.

3. Basics of SEO & Content Optimization

SEO (Search Engine Optimization) helps improve a blog's visibility on search engines like Google.

Important SEO Tips for Blogging

- Use Keywords** – Include relevant **keywords** in the title, headings, and content.
- Write Engaging Titles** – Example: "10 Best Ways to Start a Blog in 2025" instead of "How to Blog".
- Optimize Images** – Use **alt text** and compress images for fast

loading.

- Internal Linking** – Link to your own blog posts to keep users engaged.
- Mobile-Friendly Design** – Ensure the blog is **responsive** and loads well on mobile.
- Meta Description** – Write a **concise summary (160 characters)** for search engines.

Example of SEO-Optimized Blog Title & URL

- Bad Title:** "How to Blog"
- Good Title:** "Beginner's Guide: How to Start a Blog & Make Money (2025)"
- Bad URL:** blog.com/post123
- Good URL:** blog.com/how-to-start-a-blog

4. Sharing Content on Social Media

Once your blog is live, **promoting it** on social media will help attract readers.

Best Platforms to Share Blog Posts

- ◆ **Facebook** – Share on pages, groups, and personal profiles.
- ◆ **Twitter (X)** – Post short updates with hashtags.
- ◆ **LinkedIn** – Great for professional and business-related content.
- ◆ **Pinterest** – Best for visual and DIY content.
- ◆ **Instagram** – Share blog snippets via **stories & reels**.
- ◆ **Reddit & Quora** – Answer relevant questions and share links.

Effective Social Media Sharing Tips

- ✓ **Use Hashtags** – Example: #BloggingTips #SEO
#ContentMarketing
 - ✓ **Write Engaging Captions** – Summarize the blog in a catchy way.
 - ✓ **Schedule Posts** – Use tools like **Buffer, Hootsuite** to post regularly.
 - ✓ **Engage with Readers** – Reply to comments and messages.
-

5. Assignment: Create & Share a Blog Post

Task 1: Write a Blog Post

1. Choose a topic of interest (e.g., "Best Online Earning Methods in 2025").
2. Write a **500-word blog post** using headings and images.
3. Ensure the post is **SEO-optimized** (keywords, meta description, links).
4. Save it in **Word or Google Docs**.

Task 2: Publish & Promote the Blog

1. Create a **free blog** on **Blogger or WordPress**.
 2. Publish the blog post with **formatted text & images**.
 3. Share it on **Facebook, LinkedIn, or Twitter** with an engaging caption.
-  **Submit the blog link and screenshots of social media shares.**
-

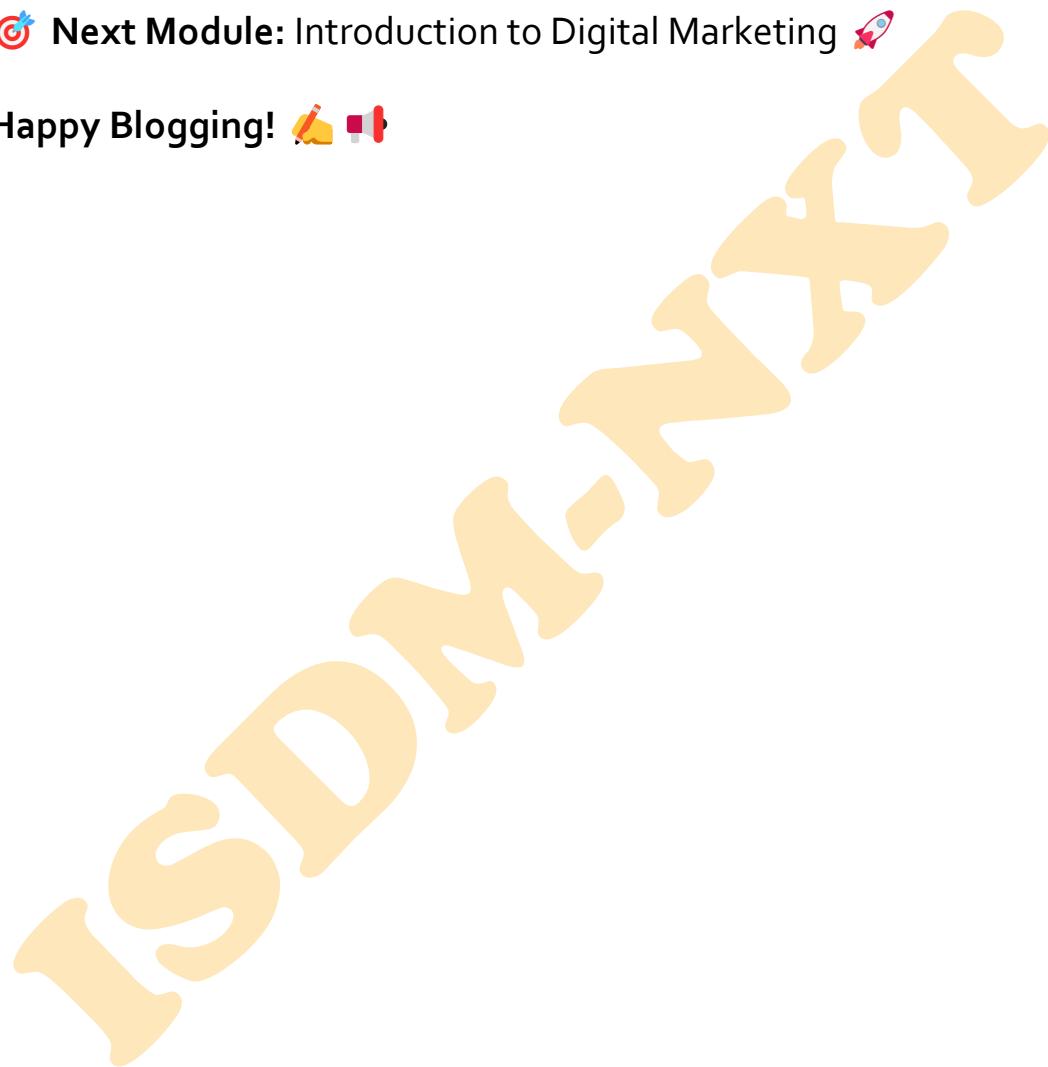
Conclusion

In this module, you learned:

- ✓ How to choose a **blogging platform** (Blogger, WordPress, Medium).
- ✓ Steps to **write & publish** an engaging blog post.
- ✓ Basics of **SEO & Content Optimization** for better ranking.
- ✓ How to **share blog content on social media** for more visibility.

🎯 **Next Module:** Introduction to Digital Marketing 🚀

Happy Blogging! 🎉



STUDY MATERIAL: CYBERSECURITY & SAFE INTERNET PRACTICES

1. Understanding Online Threats (Phishing, Viruses, Malware)

The internet is filled with **cyber threats** that can steal personal data, harm devices, and compromise security. Understanding these threats helps in staying safe online.

Common Cyber Threats

Threat	Description	Example
Phishing	Fraudulent emails or messages pretending to be from trusted sources to steal sensitive information	Fake emails from "banks" asking for login details
Malware	Malicious software that harms or takes control of a system	Downloading infected files or software
Viruses	Programs that replicate themselves and spread, corrupting data and slowing devices	Clicking on fake ads that install harmful software
Ransomware	Locks files and demands money to restore access	Receiving an email with an infected attachment
Spyware	Secretly records user activities, stealing passwords and financial information	Free software that tracks keystrokes

Social Engineering	Manipulating people into revealing personal information	Scammers pretending to be tech support
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How to Identify Phishing Emails?

- ▶ Unusual sender email addresses (e.g., bank-security@abc123.com)
- ▶ Urgent messages asking for personal details (e.g., "Your account will be locked in 24 hours")
- ▶ Suspicious links (hover over them before clicking)
- ▶ Poor grammar and formatting

2. Creating Strong Passwords & Two-Factor Authentication (2FA)

❖ Best Practices for Creating Strong Passwords

- 🔒 Use at least **12 characters** (letters, numbers, symbols)
- 🔒 Avoid common passwords like "**123456**", "password", "admin"
- 🔒 Use a mix of **uppercase & lowercase letters**
- 🔒 Change passwords **regularly**

✓ Example of a Weak Password: John123

✓ Example of a Strong Password: J@hn!987\$%secure

❖ What is Two-Factor Authentication (2FA)?

Two-Factor Authentication (2FA) adds an **extra layer of security** by requiring a second verification step.

Types of 2FA

✓ SMS Codes: A temporary code sent to your phone when logging in

- ✓ **Authenticator Apps:** Google Authenticator, Microsoft Authenticator generate secure one-time passwords
- ✓ **Biometric Verification:** Fingerprint, Face ID

How to Enable 2FA in Gmail?

- 1 Go to **Google Account Settings**
- 2 Click **Security > 2-Step Verification**
- 3 Enable **SMS or Authenticator App**
- 4 Enter the code sent to your phone
- 5 Click **Turn On**

3. Safe Browsing & Avoiding Scams

📌 **Tips for Safe Browsing**

- 🛡️ Always check for **HTTPS** in website URLs before entering personal data
- 🛡️ Do not download files from **unknown sources**
- 🛡️ Avoid clicking on **pop-up ads and suspicious links**
- 🛡️ Use **ad-blockers** to prevent malicious advertisements
- 🛡️ Log out from websites after completing transactions

⚠️ **Beware of Common Internet Scams!**

- ⚠️ **Lottery Scams:** Emails claiming you won a lottery you never entered
- ⚠️ **Tech Support Scams:** Calls or pop-ups claiming your PC has a virus
- ⚠️ **Fake Job Offers:** Emails asking for personal details or money
- ⚠️ **Online Shopping Fraud:** Unverified websites selling fake products

How to Check if a Website is Safe?

- 🔍 Use **Google Safe Browsing**
(<https://transparencyreport.google.com/safe-browsing/search>)
 - 🔍 Look for the **padlock icon** 🔒 in the browser before entering information
 - 🔍 Search for reviews about the website
-

4. Importance of VPN & Incognito Mode

📌 What is a VPN (Virtual Private Network)?

A **VPN encrypts internet traffic** and hides the user's real IP address. This helps in **securing data and privacy online**.

Benefits of Using a VPN

- ✓ **Protects Privacy** – Hides your real IP address from websites and hackers
- ✓ **Secures Public Wi-Fi Use** – Prevents data theft on public networks
- ✓ **Access Restricted Websites** – Helps bypass geo-blocked content
- ✓ **Enhances Online Security** – Encrypts internet traffic, reducing cyber threats

Popular VPN Services

- ◆ NordVPN
- ◆ ExpressVPN
- ◆ ProtonVPN
- ◆ CyberGhost

📌 What is Incognito Mode?

Incognito/Private Browsing Mode ensures that no browsing history, cookies, or form data are stored. However, it **does not** make you anonymous online.

How to Open Incognito Mode?

- **Google Chrome:** Press **Ctrl + Shift + N**
- **Mozilla Firefox:** Press **Ctrl + Shift + P**
- **Microsoft Edge:** Press **Ctrl + Shift + N**

5. Assignment: Cybersecurity Practice

Task 1: Identify Online Threats

1. Find a **real phishing email or message** screenshot.
2. Highlight the warning signs that make it **suspicious**.

Task 2: Create a Strong Password & Enable 2FA

1. Generate a **strong password** following best practices.
2. Enable **Two-Factor Authentication** on a Gmail/Outlook account.

Task 3: Safe Browsing & VPN Usage

1. Use **Google Safe Browsing** to check a suspicious website.
2. Download a **VPN trial version** and browse safely.

Submit screenshots of:

- Phishing email analysis**
- Strong password & 2FA setup**
- Google Safe Browsing test**

Conclusion

In this module, you learned:

- ✓ **Types of cyber threats and how to identify them**
- ✓ **Best practices for strong passwords & two-factor authentication**
- ✓ **Safe browsing techniques & scam prevention**
- ✓ **The role of VPNs & Incognito Mode in online privacy**

🎯 **Next Topic: Advanced Digital Security & Ethical Hacking Basics**



Stay Safe & Happy Browsing! 🔒💻

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STUDY MATERIAL: INTERNET OF THINGS (IoT) & FUTURE OF THE INTERNET

The **Internet of Things (IoT)** is changing the way we interact with technology, connecting everyday devices to the internet for automation and smart functionality. Additionally, technologies like **Artificial Intelligence (AI) and Machine Learning (ML)** are shaping the future of the internet. This module explores IoT, its applications, AI integration, and future trends in internet technology.

1. What is IoT & How It Works?

Definition of IoT

The **Internet of Things (IoT)** refers to a network of **smart devices** connected to the internet that collect, exchange, and analyze data to automate processes. These devices include **smart home gadgets, wearable devices, industrial sensors, and smart city infrastructure**.

How IoT Works?

IoT systems operate through the following components:

- 1 **Sensors & Devices:** Collect real-time data (e.g., smart thermostats detect temperature changes).
- 2 **Connectivity:** Devices connect to the internet via Wi-Fi, Bluetooth, or cellular networks.
- 3 **Cloud Computing:** Data is sent to cloud storage for processing and analysis.
- 4 **Artificial Intelligence & Automation:** AI interprets data and makes decisions (e.g., adjusting room temperature based on weather forecasts).

 **User Interface:** Users monitor and control devices using smartphone apps or voice assistants (e.g., Alexa, Google Assistant).

Example of IoT in Action

- ◆ A **smart refrigerator** detects when milk is running low and automatically places an order online.

2. Applications of IoT (Smart Homes, Wearable Devices, and More)

IoT is used in various industries, enhancing automation, efficiency, and convenience.

Smart Homes

Smart home devices improve home automation, security, and energy efficiency.

- ◆ **Examples:**
- ✓ **Smart Thermostats (Nest, Ecobee):** Automatically adjust temperature based on user preferences.
- ✓ **Smart Security Cameras (Ring, Arlo):** Monitor home security remotely via mobile apps.
- ✓ **Voice Assistants (Alexa, Google Home):** Control lights, music, and appliances with voice commands.
- ✓ **Smart Door Locks (August, Yale):** Keyless entry and remote access to lock/unlock doors.

Wearable Devices

Wearable IoT gadgets monitor health and fitness in real-time.

◆ Examples:

- ✓ **Smartwatches (Apple Watch, Fitbit)**: Track heart rate, steps, and fitness activities.
 - ✓ **Smart Glasses (Google Glass, Ray-Ban Meta)**: Augmented Reality (AR) for interactive experiences.
 - ✓ **Health Monitoring Devices**: Blood pressure monitors, glucose sensors, and ECG trackers.
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❑ Industrial IoT (IIoT) & Smart Cities

IoT improves urban management and industrial automation.

◆ Examples:

- ✓ **Smart Traffic Lights**: Adjust signals based on real-time traffic conditions.
 - ✓ **Connected Cars (Tesla, BMW)**: Autonomous driving and GPS-based automation.
 - ✓ **Industrial Sensors**: Monitor machine performance and prevent equipment failures.
-

❑ IoT in Healthcare

IoT enhances patient care and remote health monitoring.

◆ Examples:

- ✓ **Remote Patient Monitoring**: Doctors track patients' vitals remotely.
- ✓ **Smart Pills**: Sensors inside pills transmit data on medication effectiveness.
- ✓ **AI-Powered Diagnoses**: Wearable ECG monitors detect heart conditions early.

3. Artificial Intelligence & Machine Learning on the Internet

What is Artificial Intelligence (AI)?

AI is a technology that enables machines to **think, learn, and make decisions** like humans. It powers smart assistants, self-driving cars, and predictive analytics.

What is Machine Learning (ML)?

ML is a subset of AI that allows computers to **analyze patterns, learn from data, and improve over time** without being explicitly programmed.

Examples of AI & ML on the Internet

Application	How AI/ML is Used?	Examples
Voice Assistants	AI processes voice commands and responds	Siri, Alexa, Google Assistant
Chatbots & Virtual Assistants	AI-powered customer service interactions	ChatGPT, Bank Chatbots
Recommendation Systems	ML analyzes user behavior for personalized suggestions	Netflix, YouTube, Amazon
Self-Driving Cars	AI processes real-time data for navigation	Tesla Autopilot
Healthcare Diagnostics	AI predicts diseases based on medical history	IBM Watson, AI-based ECGs

Cybersecurity	AI detects and prevents cyberattacks	AI-Powered Firewalls
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4. The Future of the Internet & Emerging Trends

The internet is constantly evolving, and emerging technologies will redefine our digital experiences.

Future Trends in Internet Technology

Trend	Impact
5G & Faster Internet 	Ultra-fast speeds will improve smart cities, IoT devices, and streaming.
Metaverse & Virtual Reality (VR) 	The internet will shift toward 3D virtual experiences (Facebook Meta).
Blockchain & Decentralized Internet 	Blockchain can create a more secure, decentralized web.
Quantum Computing 	Ultra-powerful computing for AI, cryptography, and problem-solving.
AI-Powered Search & Automation 	AI will provide more accurate search results and automated tasks .
Internet for Everyone (Global Connectivity) 	Companies like Starlink (Elon Musk) are working on global internet coverage .

The Role of IoT in Future Internet Trends

IoT will play a crucial role in **smart cities, healthcare, industries, and automation**, making life more efficient and connected.

- ◆ **Example:** Self-driving taxis connected via IoT will use AI-powered traffic prediction to **avoid congestion** and **reduce accidents**.

5. Assignment: Practical IoT & AI Research

Task 1: IoT in Everyday Life

- ◆ List **5 IoT devices** you use or have seen around you and explain how they work.

Task 2: AI & Machine Learning Impact

- ◆ Find **three real-world AI applications** and describe how they are improving lives.

Task 3: Future of the Internet - Research & Predict

- ◆ Write a short paragraph on **how the internet will change in the next 10 years**.

Task 4: Explore Smart Home Apps

1. Download a smart home app (**Google Home, Alexa, or SmartThings**).
2. Explore its **features** and write a **short review**.

- Submit screenshots or a written report for evaluation!**

6. Conclusion: The Future is Smart & Connected

- ✓ IoT connects smart devices to automate everyday tasks.
- ✓ AI & Machine Learning enhance online experiences & business automation.
- ✓ The internet is evolving towards 5G, blockchain, VR, and quantum computing.
- ✓ Smart homes, cities, and industries will rely on IoT & AI integration.

➡️ Next Topic: Cybersecurity & Safe Internet Practices – Learn how to stay secure in the digital world! 🔒🚀

Happy Learning! 🎉

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