

CLASS VII – ICT

Periodic Test – I (2026–27) — Complete Answers

Section-A

1. Choose the correct option

A. A computer network is a group of:

✓ii) **Two or more computers**

B. Which is the normal computer system which is connected to network for sharing of resources?

✓i) **Client**

C. Which device connects a computer to a network?

✓i) **NIC**

D. Which transmission mode allows communication in only one direction?

✓iii) **Simplex**

E. Which one is a guided transmission medium?

✓iii) **Twisted Pair Cable**

F. Bluetooth is mainly used for:

✓iii) **PAN**

G. Which network is used inside a school or office?

✓i) **LAN**

H. Which communication medium uses light signals?

✓i) **Optical Fiber**

I. Which device receives information?

✓ii) **Receiver**

J. WAN stands for:

✓i) **Wide Area Network**

These are the ten compulsory 1-mark questions in the paper.

2. Fill in the blanks

Options: **Full-duplex, Optical Fiber, Sender, Protocol, MAN, HUB**

A. The set of rules used for communication over a network is called **Protocol**.

B. **Sender** prepares information and sends it.

C. **Optical Fiber** is a guided transmission medium that uses light signals.

D. **Full-duplex** communication allows data to flow in both directions at the same time.

E. **MAN** stands for Metropolitan Area Network.

F. **HUB** is a device that allows you to connect multiple computers to a single network device.

Section-B

Short Answer Questions

The question paper asks students to answer any six, but here are **answers to all eight**.

A. Define a computer network.

A **computer network** is a group of two or more computers and other devices connected together to communicate and share resources such as files, printers and Internet connections.

B. Write any two advantages of a computer network.

Two advantages of a computer network are:

1. It allows **sharing of resources** such as printers and files.
2. It allows **easy communication and sharing of information** between connected computers.

C. Differentiate between LAN and WAN.

LAN

LAN stands for Local Area Network.

It covers a small geographical area such as a school or office.

WAN

WAN stands for Wide Area Network.

It covers a large geographical area such as cities, countries or the world.

D. What is a NIC?

NIC stands for **Network Interface Card**. It is a hardware device that connects a computer to a computer network and enables it to communicate with other network devices.

E. Name any two guided transmission media.

Two guided transmission media are:

1. **Twisted Pair Cable**
2. **Optical Fiber Cable**

Other examples include coaxial cable.

F. Differentiate between Simplex and Full-Duplex communication.

Simplex: Data flows in **only one direction**. Example: television broadcasting.

Full-Duplex: Data can flow in **both directions at the same time**. Example: telephone communication.

G. What is Bluetooth? Mention one of its uses.

Bluetooth is a wireless communication technology used to exchange data between nearby devices. It can be used to connect a **mobile phone with wireless headphones or speakers**.

H. Write any two advantages of Optical Fiber Cable.

Two advantages of optical fiber cable are:

1. It provides **high-speed data transmission**.
2. It can transmit data over **long distances with low signal loss**.

Section-C

Long Answer Questions

The paper asks students to answer any three, but below are **complete answers to all four**.

A. Write the advantages of a computer network.

A computer network has several advantages:

1. **Resource sharing:** Computers can share printers, scanners, storage devices and other resources.
2. **File sharing:** Users can easily share files and information with other computers.
3. **Communication:** Users can communicate with each other through email, messaging and other network services.
4. **Internet sharing:** Multiple computers can share a single Internet connection.
5. **Centralized management:** Data and resources can be managed from a central location.
6. **Saves time and cost:** Sharing resources reduces the need to purchase separate devices for every computer.

B. Explain the different methods of data transmission.

Data transmission refers to the process of sending data from one device to another. The main methods are:

1. Simplex

In simplex transmission, data flows in **only one direction**. The receiver cannot send data back to the sender.

Example: Television broadcasting.

2. Half-Duplex

In half-duplex transmission, data can flow in **both directions, but not at the same time**. One device sends while the other receives.

Example: Walkie-talkie.

3. Full-Duplex

In full-duplex transmission, data can flow in **both directions simultaneously**.

Example: Telephone or mobile phone communication.

C. Explain any three unguided transmission media used for data transmission.

Unguided transmission media transmit data **without physical cables**, using electromagnetic waves.

1. Radio Waves

Radio waves are wireless electromagnetic waves used to transmit data over distances. They are commonly used in **radio communication, broadcasting and wireless networks**.

2. Microwaves

Microwaves are electromagnetic waves that can transmit large amounts of data over long distances. They are used in **satellite communication and communication between distant locations**.

3. Infrared

Infrared uses infrared light to transmit data over short distances. It is commonly used in devices such as **remote controls** and some short-range communication systems.

D. Explain different types of computer networks.

Computer networks can be classified according to the geographical area they cover.

1. PAN – Personal Area Network

PAN is a network that covers a **very small area around a person**. Bluetooth connections between a mobile phone and wireless headphones are examples of PAN.

2. LAN – Local Area Network

LAN covers a **small geographical area**, such as a classroom, school, office or building. It is commonly used for sharing files, printers and other resources.

3. MAN – Metropolitan Area Network

MAN stands for **Metropolitan Area Network**. It covers a larger area than LAN, generally a **city or metropolitan area**.

4. WAN – Wide Area Network

WAN covers a **very large geographical area**, such as multiple cities, countries or even the whole world. The **Internet** is a well-known example of a WAN.

Quick Revision

Topic

Answer

Topic	Answer
Network	Two or more computers/devices connected together
NIC	Connects a computer to a network
Simplex	One-way communication
Half-Duplex	Two-way, but one direction at a time
Full-Duplex	Two-way communication simultaneously
Guided media	Twisted Pair, Coaxial, Optical Fiber
Unguided media	Radio, Microwave, Infrared
Bluetooth	Mainly used for PAN
LAN	Small area
MAN	Metropolitan/city area
WAN	Large geographical area
Optical Fiber	Uses light signals
Protocol	Rules for network communication