



B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL



POST MID-TERM EXAMINATION 2025-26

INFORMATION TECHNOLOGY (802) / SUBJECT-05

Class : XI
Date : 10-01-2026
Admission No.:

Duration : 1 Hr
Max. Marks : 25
Roll No.:

MARKING SCHEME

SECTION–A (MCQs) – Answer Any 7

1. c) Fiber optic cables
2. d) IPv6
3. c) Len Kleinrock
4. a) Bus topology
5. b) SMTP
6. a) Cyberbullying awareness
7. a) Web browser
8. c) Weak
9. d) Malware
10. c) Layer

SECTION–B (Short Answers) – Answer Any 6

11. Difference between IPv4 and IPv6

- **IPv4** is a 32-bit addressing scheme; provides about 4.3 billion addresses.
- **IPv6** is a 128-bit addressing scheme; provides a significantly larger address space and better security.

12. What is network topology? List the types.

Network topology refers to the **arrangement or layout** of computers and cables in a network.

Types include: **Bus, Star, Ring, Mesh, Tree, Hybrid.**

13. Hub vs Repeater; where used?

- **Hub:** Broadcasts data to all devices in a network.
- **Repeater:** Regenerates/boosts signals to extend network length.
Used in **LANs** (Local Area Networks).

14. Skills needed to navigate the digital world

Examples: **Online communication, search skills, cyber safety awareness, evaluating digital content, using productivity tools.**

15. Advantages of digital literacy

Any three:

1. Helps in safe and responsible internet use.
2. Improves communication and collaboration.
3. Enhances employability.
4. Enables efficient use of digital tools.

16. What is IP protocol? List the layers.

The IP protocol defines rules for addressing and routing data on a network.

Layers of TCP/IP:

1. **Application**
2. **Transport**
3. **Internet**
4. **Network Access / Link Layer**

17. Purpose of SMTP

SMTP is used for **sending and transferring emails** between mail servers across the internet.

18. What is an Anti-Virus? Give four examples.

Anti-virus is software that **detects and removes malicious software.**

Examples: **Avast, McAfee, Quick Heal, Kaspersky.**

19. Define: Cyber Trolling & Pharming

- **Cyber Trolling:** Intentionally posting offensive or provoking messages online to disturb others.
- **Pharming:** Redirecting users to fake websites to steal personal data like passwords or banking info.

20. What is DoS? Any two ways to launch it.

DoS (Denial of Service) is an attack that **makes a network or website unavailable** to users.

Ways to launch it:

1. Sending **excessive traffic** to crash the server.
2. Exploiting **software vulnerabilities** to stop services.

SECTION–C (Long Answers) – Answer Any 2

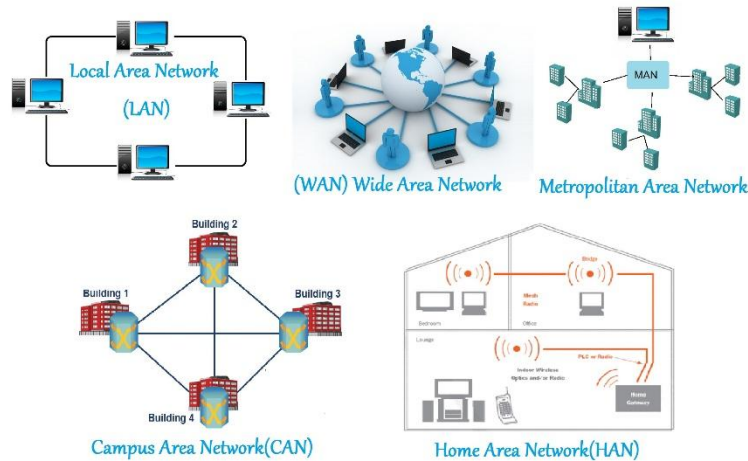
21. What is a computer network? Types. Explain any two.

A computer network is a group of interconnected devices that share data and resources.

Types: LAN, MAN, WAN, PAN.

LAN: Covers a small area like a school or office.

WAN: Covers a large geographical area like countries (example: Internet).



(Use simple LAN and WAN diagram while writing in the exam.)

22. Three functions of the Internet layer in TCP/IP

1. **Addressing** of packets (using IP address).
2. **Routing** packets through different networks.
3. **Fragmentation & Reassembly** of packets.
4. **Error reporting** using ICMP (any 3 accepted).

23. Protective measures while accessing the Internet

Any three:

1. Use **strong passwords**.
2. Install **antivirus** and keep it updated.
3. Avoid clicking unknown links/email attachments.
4. Use **HTTPS** sites and secure Wi-Fi.

24. Define the IT Act. Its aims and how it protects users.

The IT Act, 2000 provides a **legal framework for electronic transactions and cybercrimes** in India.

Aims:

- Legal recognition of e-commerce and digital signatures.
- Prevent and penalize cybercrimes.

Protection to users:

- Punishes hacking, online fraud, identity theft, cyber stalking, data theft.
- Ensures secure electronic records and payments.

***** ALL THE BEST *****