



**BK BIRLA CENTRE FOR EDUCATION**  
**SARALA BIRLA GROUP OF SCHOOLS**  
**SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL**  
**MID TERM EXAMINATION 2024-25**  
**INFROMATION TECHNOLOGY (802)**



**Class: XI (SUBJECT-4)**

**Date: 14.09.2024**

**Name: .....**

**Duration: 3 hrs.**

**Max Marks: 60**

**Exam No. :**

**General Instructions:**

1. Please read the instructions carefully.
2. This Question Paper consists of 23 questions in two sections: Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. All questions of a particular section must be attempted in the correct order.
5. **SECTION A - OBJECTIVE TYPE QUESTIONS (30 MARKS):**
  - i. This section has 05 questions.
  - ii. Marks allotted are mentioned against each question/part.
  - iii. There is no negative marking.
  - iv. Do as per the instructions given.
6. **SECTION B – SUBJECTIVE TYPE QUESTIONS (30 MARKS):**
  - i. This section has 18 questions.
  - ii. A candidate has to do 11 questions.
  - iii. Do as per the instructions given.
  - iv. Marks allotted are mentioned against each question/part.

**MARKING SCHEME**

**SECTION A: OBJECTIVE TYPE QUESTIONS**

**Q.(1) Answer any 4 out of the given 6 questions on Employability Skills.**

**(4 x 1 = 4)**

- (i) What is the purpose of communication ?
  - (a) Inform(tell someone about something)
  - (b) Influence (get someone to do something you want)
  - (c) Share thoughts, ideas, feelings
  - (d) All of the above**
- (ii) Choose the correct example of oral communication.
 

(a) Reports	(b) Newspapers
<b>(c) Face-to-face interaction</b>	(d) Notes
- (iii) Why do we send emails ?
 

(a) To communicate information	(b) To share documents and files
(c) To talk to each other	<b>(d) Both (a) and (b)</b>
- (iv) ..... refers to knowing one's potential by examining and analysing intellectual and spiritual capacities.
 

(a) Self management	<b>(b) Self exploration</b>
(c) Grooming	(d) Intelligence
- (v) ..... refers to the things people do to keep themselves neat and presentable.
 

(a) Team norms	(b) Team process
<b>(c) Grooming</b>	(d) None of these

- (vi) ..... refers to a group of people who have complementary skills and work towards a common goal.
- (a) Group (b) Company  
(c) **Team** (d) None of these

**Q.(2) Answer any 7 questions out of the given 8 questions on Fundamentals of Computer and Components of Computer. (7 x 1 = 7)**

- (i) In the binary number system, what does the digit “1” represent ?  
(a) False (b) **High voltage**  
(c) Binary (d) Low voltage
- (ii) What is the main advantage of using an SSD over an HDD ?  
(a) Higher capacity (b) Slower speed  
(c) Mechanical components (d) **Faster speed**
- (iii) What type of memory is volatile and loses its data when the computer is turned off ?  
(a) ROM (b) Cache memory  
(c) SSD (d) **RAM**
- (iv) What type of operation is the Arithmetic Logic Unit (ALU) responsible for ?  
(a) Managing memory storage (b) Directing data flow within the CPU  
(c) **Arithmetic and Logical operations** (d) Interpreting instructions
- (v) Which of the following input device is used to capture images of physical documents ?  
(a) **Scanner** (b) Mouse (c) Keyboard (d) Joystick
- (vi) Which of the following output devices produces hard copies of digital documents ?  
(a) **Printer** (b) Monitor (c) Speakers (d) Microphone
- (vii) Why are pen drives popular ?  
(a) Due to their large size  
(b) **Due to their ease of use, portability, and small size**  
(c) Due to their ability to connect wirelessly  
(d) None of the above
- (viii) Which of the following is an example of an input-output device ?  
(a) Printer (b) Scanner (c) **Touchscreen** (d) Speakers

**Q.(3) Answer any 7 questions out of the given 8 questions on Operating System and Troubleshooting. (7 x 1 = 7)**

- (i) Which of the following is not an example of an operating system ?  
(a) Windows (b) MacOS  
(c) Linux (d) **Chrome**
- (ii) Which of the following is not an example of a hardware device that requires a driver to function properly with an operating system ?  
(a) Keyboard (b) Monitor  
(c) **Processor** (d) Printer
- (iii) What is an operating system ?  
(a) **A software that manages and controls the hardware and software resources of a computer**  
(b) A type of computer hardware  
(c) A device used for input and output  
(d) A type of programming language
- (iv) What is process management in an operating system ?  
(a) Managing computer hardware  
(b) **Managing tasks or processes running on the computer**  
(c) Managing computer software  
(d) Managing computer security

- (v) What does the screen look like when the system goes to sleep mode ?  
 (a) Blue (b) White (c) Pink (d) **Blank**
- (vi) If the mouse does not work even if it is properly connected to the computer, you should once try to connect it to :  
 (a) **Another computer and see if it works** (b) The main power  
 (c) The USB connector (d) None of these
- (vii) What is the name given for a systematic approach used to solve a problem ?  
 (a) debugging (b) Inventing (c) solving (d) **troubleshooting**
- (viii) Mouse can stop working due to :  
 (a) Loose connection (b) Internal damage (c) **Both (a) and (b)** (d) None of these

**Q.(4) Answer any 6 questions out of the given 8 questions on Utilities and Computer Networking. (6 x 1 = 6)**

- (i) A minimum of 200-500 MB of ..... is required for a computer to function well.  
 (a) Hard disk space (b) **Free space**  
 (c) Thumb drive space (d) None of these
- (ii) It is necessary to ..... unwanted files regularly so that your disk has free space.  
 (a) Create (b) Manage (c) **Delete** (d) backup
- (iii) When the computer becomes completely ..... you will have to force stop it by pressing the power button down till it switches off.  
 (a) Perfect (b) Working (c) Broke down (d) **Unresponsive**
- (iv) If you are faced with networking problems, you must press on Control panel > .....  
 (a) Sharing center (b) Network  
 (c) **Network and sharing center** (d) None of these
- (v) What is the most recent development in communication technology  
 (a) Telephones (b) The printing press  
 (c) **The Internet** (d) Smoke signals
- (vi) What is a transmission medium ?  
 (a) **A path for data transmission** (b) a device for data transmission  
 (c) A protocol for data transmission (d) A software for data transmission
- (vii) Which of the following is an example of guided transmission media ?  
 (a) Radio waves (b) Infrared signals  
 (c) **Fiber optic cable** (d) Satellite communication
- (viii) Which topology is arranged in a hierarchical tree structure ?  
 (a) Bus topology (b) Ring topology (c) Star topology (d) **Tree topology**

**Q.(5) Answer any 6 questions out of the given 8 questions on Internet and its Terminology and Cyber Threats and Cyber security. (6 x 1 = 6)**

- (i) What is the definition of digital literacy ?  
 (a) Basic computer skills  
 (b) **Understanding, evaluating and using ICTs responsibly**  
 (c) Knowledge of social media platforms  
 (d) Online gaming proficiency
- (ii) Which of the following is an aspect of digital literacy ?  
 (a) **Cyberbullying awareness** (b) Car maintenance skills  
 (c) Musical instrument proficiency (d) Painting techniques
- (iii) What is the purpose of TELNET ?  
 (a) Remote file sharing (b) Sending and receiving emails  
 (c) **Remote login and access to a computer over a network**  
 (d) Accessing websites on the World Wide Web

- (iv) What protocol governs the transferring of emails via the Internet ?  
 (a) FTP (b) **SMTP** (c) POP3 (d) HTTP
- (v) ..... passwords create vulnerabilities that can be exploited by any attacker.  
 (a) Strong (b) Name based (c) **Weak** (d) Incomplete
- (vi) The shortform of “Malicious software” is :  
 (a) Maliware (b) Muscware (c) Malicware (d) **Malware**
- (vii) Layer 3 security is also known as :  
 (a) Firewall (b) Antivirus  
 (c) Password manager (d) **Network layer security**
- (viii) The L in SSL stands for :  
 (a) Leak (b) Level (c) **Layer** (d) Leased

## **SECTION B: SUBJECTIVE TYPE QUESTIONS**

**Answer any 3 out of the given 5 questions on Employability Skills**

**(3 x 2 = 6)**

**Q. (6)** What is communication ? Explain any four elements of communication.

**Ans. :** It is the sharing of information between two or more individuals or within the group to reach a common understanding.

Sender, Idea, Message, encoding, Communication channel, Receiver, decoding, Feedback

Sender: The person or entity initiating the communication.

Message: The information, idea, or thought that is being communicated.

Encoding: The process of converting the message into symbols, words, or gestures that can be understood.

Channel: The medium through which the message is sent (e.g., verbal, written, electronic).

Receiver: The person or entity for whom the message is intended.

Decoding: The process by which the receiver interprets and understands the message.

Feedback: The response from the receiver back to the sender, indicating whether the message was understood correctly.

**Q. (7)** Explain different methods of communication.

**Ans. :**

Verbal Communication:

- Definition: Communication through spoken words, either face-to-face or over the phone.
- Examples: Conversations, speeches, presentations, phone calls.

Non-Verbal Communication:

- Definition: Communication through gestures, body language, facial expressions, and other non-verbal cues.
- Examples: Eye contact, hand gestures, posture, facial expressions.

Visual Communication:

- Definition: Communication through visual aids such as charts, graphs, diagrams, and images.
- Examples: Infographics, presentations using slides, charts in reports.

**Q. (8)** What is effective communication ? Explain any three 7 Cs of effective communication.

**Ans. :**

The 7Cs of effective communication are principles that guide the process of creating clear and meaningful messages. They are helpful in ensuring that communication is accurate, concise, and easily understood by the audience. Here are explanations of three of the 7Cs:

- Clarity: Clarity in communication means that the message is clear, easily understandable, and free from ambiguity.

- Conciseness: Conciseness refers to conveying information in a clear and efficient manner without unnecessary details or verbosity.
- Completeness: Completeness means providing all necessary information and details required for the receiver to fully understand the message.

**Q. (9)** What is a team ? Mention and explain any two factors which influence team building.

**Ans. :** Team refers to a group of people who have complementary skills and work towards a common goal.

Team Norms : Team norms are the standards or rules that govern the performance of the group members.

Social Loafing : it is the phenomenon of a person exerting less effort to achieve a goal when they work in a group than when working alone.

Team Cohesion :

Loss of individuality :

**Q. (10)** Give any four points that are the part of the personal grooming checklist.

**Ans. :** Use a good posture

Bathing or shower every ay

Shampooing the hair regularly

Styling hair in a neat manner

Brushing teeth regularly

Trimming nails and keeping them clean

Wearing clean and ironed clothes which fit properly

**Answer any 3 out of the given 5 questions on Subject Specific Skills.**

**(3 x 2 = 6)**

**Q.(11)** What is the main difference between RAM and ROM ?

**Ans. :**

RAM : It refers to Random Access Memory where both read and write operations can take place. It is a volatile memory. Its contents are lost when power is turned off.

ROM : It refers to Read Only Memory where only read operation can take place. It is non-volatile memory.

Both are part of Primary memory.

**Q.(12)** How does a pen drive transfer data between devices ?

**Ans. :** A pen drive or USB flash drive, is a small portable data storage device that uses flash memory to store and transfer digital data. It is a small device with a USB connector that can be easily plugged into a computer's USB port in order to transfer data between devices.

**Q.(13)** What do you do when there is problem with the speakers ?

**Ans. :** (i) In case of external speakers, we must ensure that the cable is connected properly.

(ii) We must ensure that volume of the system should be turned ON at full volume.

(iii) Application may be having its own audio controls, then we must check the app

(iv) Check the volume using the headphones

(v) Software related problems

**Q.(14)** What is computer network ? What type of devices can be connected to a PAN network ?

**Ans. :** It is a collection of computers and other computing devices that are interconnected so that they can communicate with each other through a defined channel.

PAN is ideal for networks that are typically within a range of a few meters. PANs are used for personal use, such as connection a smart phone, tablet and smartwatch to each other or to other peripheral devices like a printer or headphones. Technology used in it are Bluetooth and infrared.

**Q.(15)** Define a virus. Give any two reasons why firewalls are important.

**Ans. :** Virus is a threat designed to damage a device or to steal data. Firewall play s very crucial role in the field of network security and are undoubtedly the fundamental component of any stable security infrastructure.

- (i) Firewalls provide network protection by acting as a barrier between an internal network and external networks.
- (ii) An organization can define and enforce access policies for network resources.
- (iii) Firewalls can be used to provide application layer security.

**Answer any 2 out of the given 3 questions on Subject Specific Skills.**

**(2 x 3 = 6)**

**Q.(16)** Explain any three types of operating system by giving suitable example of each.

**Ans. :**

**Single tasking and multi tasking :** Single tasking OS allows execution of a single program at a time whereas multitasking operating system allows execution of more than one program simultaneously.

**Single user and multi users :** Single user operating system allows only one user to access the system at any given time whereas multi user operating system can be handled by many users.

**Real time operating system :** A RTOS is a type of OS designed to process and respond to events or data inputs in real time.

**Q.(17)** What is antivirus ? How is antivirus software important ?

**Ans. :** Antivirus is must for protecting your computer system from malicious attacks from various forms of malware. Antivirus is a type of software designed to detect, prevent, and remove malicious software, commonly known as malware, from computers and other digital devices. Malware encompasses a wide range of harmful programs, including viruses, worms, trojans, ransomware, spyware, adware, and more. The primary goal of antivirus software is to protect systems from these threats by identifying and eliminating them before they can cause damage or compromise sensitive information.

### **Why is Antivirus Software Important?**

Antivirus software plays a critical role in maintaining the security and integrity of digital systems for several reasons:

**1. Protection Against Malware:**

- The primary function of antivirus software is to protect your system from various forms of malware that can corrupt files, steal sensitive information, hijack system resources, or render your system unusable.

**2. Safeguarding Personal Information:**

- Malware such as spyware and keyloggers are designed to steal personal and financial information. Antivirus software helps prevent unauthorized access to your confidential data, protecting you from identity theft and financial fraud.

**3. Preventing System Downtime:**

- Malware infections can lead to system crashes and significant downtime, affecting productivity and potentially leading to financial losses for businesses. Antivirus software helps maintain system stability and operational continuity.

4. **Blocking Phishing Attacks:**

- Many antivirus programs include features that detect and block phishing attempts by identifying fraudulent websites and emails designed to trick users into revealing sensitive information.

5. **Protecting Network Security:**

- In a networked environment, a single infected system can compromise the security of the entire network. Antivirus software helps prevent the spread of malware across devices and networks.

6. **Compliance with Regulations:**

- For businesses, using antivirus software is often a requirement to comply with various data protection and cybersecurity regulations. Failure to protect customer data adequately can result in legal consequences and damage to reputation.

7. **Peace of Mind:**

- Knowing that your systems are protected by reliable antivirus software provides peace of mind, allowing individuals and organizations to use digital technologies confidently.

**Q.(18)** What is the purpose and importance of digital literacy ? Give any three points in support of your answer.

**Ans. :** The ability to understand, evaluate and use information and Communication Technologies (ICTs) in a right and responsible manner is known as Digital Literacy. It allows a person to use various digital devices, software applications and online platforms. It also encompasses the skills to surf over the internet, research information, evaluate the credibility and reliability of online sources, and protection of personal information and privacy online. It will make you aware of issues like :

Cyberbullying

Online safety

Digital footprints

Copyright

Intellectual property

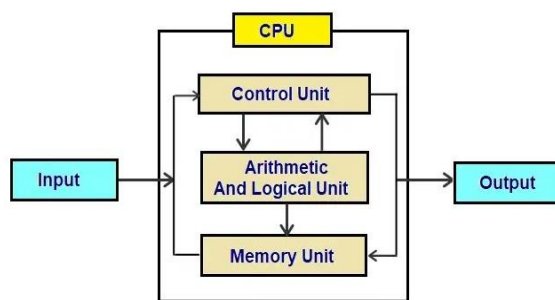
Digital citizenship

**Answer any 3 out of the given 5 questions on Subject Specific Skills.**

**(3 x 4 = 12)**

**Q.(19)** Draw block diagram of a computer system and explain each part of it.

**Ans. :**



Block Diagram of a Computer

**Input Devices:** Allow users to enter data and commands into the computer. Examples include the keyboard for typing text and the mouse for pointing and clicking.

**CPU:** Processes instructions from software and performs calculations and data manipulation. It consists of the ALU for arithmetic operations and the CU for coordinating activities within the computer.

**Memory:** Stores data and instructions temporarily (RAM) and permanently (ROM and secondary storage devices). RAM allows quick access to data needed by the CPU, while secondary storage devices provide long-term storage.

**Output Devices:** Display or present processed information to the user in human-readable form. Examples include monitors for visual output and printers for producing physical copies of documents.

**Q.(20)** What general procedure must you follow if any peripheral device is NOT working ?

**Ans. :**

Check the connection. It should not be loose.

If the device has a power button, check if that button is on.

Wireless device should be properly charged

F1 key of windows can help you find a solution. If you receive an error message, make a note of it.

Restart your computer and if things still do not work call a service engineer.

**Q.(21)** Explain different types of computer network with the help of diagram.

**Ans. :**

Personal Area Network (PAN)

- **Description:** A PAN is a small network, typically involving a few devices such as a computer, phone, and personal digital assistant (PDA), often within the range of a few meters. It is used for personal communication and data sharing.
- **Example Devices:** Bluetooth-enabled devices, smartphones, laptops, etc.

2. Local Area Network (LAN)

- **Description:** A LAN is a network that connects devices within a limited area such as a home, school, or office building. It is used for sharing resources like printers, files, and internet connections.
- **Example Devices:** Computers, printers, routers, and switches.

3. Metropolitan Area Network (MAN)

- **Description:** A MAN covers a larger area than a LAN, typically spanning a city or a large campus. It connects multiple LANs together to form a larger network.
- **Example:** Network of several buildings in a city or a large university campus.

4. Wide Area Network (WAN)

- **Description:** A WAN spans a large geographic area, such as a country or continent. It connects multiple LANs, often using the internet as the backbone.
- **Example:** The internet is the largest WAN.

5. Campus Area Network (CAN)

- **Description:** A CAN is a network that covers multiple buildings within a specific area, such as a university or business campus.
- **Example:** A university's network connecting different departments and buildings

**Q.(22)** Write short notes on the following :

(a) E-mail

(b) TELNET

(c) WWW

(d) HTTP

**Ans. :**

(a) E-mail (Electronic Mail)

- **Definition:** E-mail is a method of exchanging digital messages over the internet or other computer networks. It is one of the most widely used communication tools.
- **Features:** E-mail allows users to send and receive messages, which can include text, images, and attachments such as documents or multimedia files. Users can also organize messages into folders, filter spam, and set up automatic responses.
- **Uses:** E-mail is used for personal communication, professional correspondence, marketing, and business operations. It can be accessed via web browsers, e-mail clients, or mobile apps.



(b) TELNET (Telecommunication Network)

- **Definition:** TELNET is a network protocol used for remotely accessing and managing a computer system over the internet or a local network.
- **Functionality:** TELNET allows users to log into a remote system as if they were physically present at that system. It provides command-line access, enabling users to perform tasks such as file management, system administration, and software configuration.
- **Security:** TELNET transmits data, including passwords, in plain text, which makes it insecure for sensitive operations. It has largely been replaced by Secure Shell (SSH) in modern systems due to security concerns.

(c) WWW (World Wide Web)

- **Definition:** The World Wide Web is a vast collection of interconnected documents and resources, accessible via the internet. It was invented by Tim Berners-Lee in 1989.
- **Components:** The WWW consists of web pages, which are written in HTML and can include text, images, videos, and links to other pages. These pages are accessed using web browsers like Chrome, Firefox, or Safari.
- **Usage:** The WWW is used for accessing information, entertainment, communication, e-commerce, education, and much more. It operates on the basis of URLs (Uniform Resource Locators) that identify each web page.

(d) HTTP (Hypertext Transfer Protocol)

- **Definition:** HTTP is a protocol used for transmitting hypertext over the internet. It is the foundation of data communication on the World Wide Web.
- **Functionality:** HTTP defines how messages are formatted and transmitted, and how web servers and browsers should respond to various commands. When you enter a URL in your browser, an HTTP request is sent to the server hosting the web page, and the server responds with the requested content.

**Q.(23)** Write any four protective measures that you can take while accessing Internet.

**Ans. :** Avoid clicking on suspicious links

Keep your password strong and should not be easy to guess.

When you experience phishing issue report it to [cybercrime.gov.in](http://cybercrime.gov.in)

When you visit a website, if you notice a padlock on the left side of the address bar it indicates that the website has a secure socket layer (SSL) and has a digital certificate by a trusted party.

Use updates and secure browser

Do not accept friend requests from strangers on social media

Never post offensive or rumour oriented content on any of your social mediaaccounts

Update antivirus and firewalls regularly

Delete cookies periodically

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