Briefly answer the following questions

1. Discuss Robotics and its applications:
Robotics is about making robots to help humans in fields like industry, medicine, and the military.

2. What is Artificial Intelligence? How is it helpful for humans?
Artificial Intelligence makes devices act and think like humans. It helps through voice recognition and decision-making.

3. Who operates a self-driven car?
Self-driving cars operate themselves using sensors, with little or no human input.

4. Differentiate between 2D and 3D printing:
2D Printing: Prints flat images on paper.
3D Printing: builds physical objects from digital designs.

5. Write down the functions of USB Port:
Functions of USB Port:
Connects devices like keyboard, mouse, camera, printer, phone, and storage to a computer.

6. Differentiate between Type-C and HDMI ports:
Type-C: Reversible USB port for fast charging and data transfer.
HDMI: Port for high-resolution audio and video transmission.

7. What is the usage of SATA port?
SATA Port Usage: connects hard drives to the computer for fast data transfer.

8. For which purpose do we use PCIe?
PCIe Purpose: PCIe connects high-speed components to a computer.

9. Discuss Computer Peripherals:
Computer Peripherals
Peripherals are external devices connected to a computer. They are of three types:
1. Input Devices – Send data to the computer.
2. Output Devices – Display or present data from the computer.
3. Storage Devices – Store data for future use.

10. Differentiate between Hovering and Scrolling:
Moving the mouse over an item to highlight it (e.g., link color changes).
Scrolling: Using the mouse to move up or down a page.

11. Discuss printers and their types:
Printers: Printers are output devices that print text or images.
Types: Inkjet, Laser, 3D, and LED printers.

12. For which purposes do we use Scanner?

Scanner Use: To convert paper documents into digital form.

13. Discuss main properties of Scanner:

Scanner Properties: Resolution (DPI), Color Depth, and OCR (text recognition).

Answer the following questions in detail

1. Define Emerging Technology, discuss three real world examples.

Emerging Technology:

New or improved technologies that grow fast, innovate, and impact society, economy, and security.

Examples:

1. Robotics: Machines that assist humans in industries like manufacturing and medicine.
2. Artificial Intelligence: Machines that think and act like humans, such as voice recognition.
3. Self-driving Cars: Cars that drive themselves with minimal human control.

2. What is Holographic imaging? Discuss its application.

Holographic imaging is a technique that uses light to create a 3D image (hologram) in space. It is a real, free-standing image, different from 2D images and virtual reality.

Applications:

Medical: Viewing internal organs for diagnosis.

Education: Displaying 3D models.

Industry: Designing product models.

Entertainment: Creating 3D effects in performances.

3. Discuss Computer ports and their types.

Computer Ports and Their Types:

Ports connect external devices to a computer. Common types include:

1. USB Port: Connects peripherals like mouse, keyboard, printer.
2. Type-C Port: Latest USB type, reversible, supports fast charging.
3. HDMI Port: Transfers high-definition audio and video.
4. SATA Port: Connects storage devices like hard drives.
5. PCIe (Express) Port: Connects high-speed parts like graphic and Wi-Fi cards.

4. What is a Computer Mouse? Discuss its functions.

A mouse is a small input device used to control the cursor on a computer screen. It helps in selecting, moving, and opening files or folders and usually has left, right, and scroll buttons.

Functions of a Mouse:

1. Moves the cursor.
2. Selects text or items.
3. Opens files or programs (double-click).
4. Drag-and-drop to move items.
5. Hover to preview links.

6. Scrolls through pages.
7. Supports key combinations (e.g., Ctrl + click).

5. Difference between Virtual Reality and Augmented Reality?
Difference between Virtual Reality and Augmented Reality:
Virtual Reality (VR): Creates a fully artificial 3D environment for interaction.
Augmented Reality (AR): Combines the real-world environment with computer-generated content.

6. What is a keyboard? Discuss its main components.
A keyboard is a popular input device used to enter data into a computer. It resembles a traditional typewriter but includes additional keys for extra functions.
Main components of a keyboard:
Typing keys: Letters, numbers, symbols, and punctuation keys.
Control keys: Used for specific actions (e.g., Ctrl, Alt, Windows key, Esc).
Function keys: Perform special tasks (F1 to F12).
Navigation keys: Help move in documents/web pages (e.g., arrow keys, Home, End).
Numeric keypad: Used for quick number entry (0–9), like a calculator.

7. What is the use of function keys in a keyboard?
Function keys (F1 to F12) are used to perform specific tasks. Their function changes depending on the program being used.

Write the functions of the following:
Type-C port: Fast charging USB port, reversible plug.

SATA port: Connects hard drives to the computer, hot-swappable.

HDMI port: Sends high-quality video and audio to screens.

Graphic card: Creates images on the computer screen.

Webcam: Captures video and pictures for calls or recording.