# AKANU IBIAM FEDERAL POLYTECHNIC
# UNWANA, P.M.B 1007, AFIKPO, EBONYI STATE

## ASSIGNMENT

**QUESTION 1**
**a. Define a computer and explain its four major functions.**
**b. Describe the basic components of a computer system with examples.**
**QUESTION 2**
**a. Differentiate between hardware and software.**
**b. Explain the two main types of software, giving at least three examples each.**
**QUESTION 3**
**a. Explain the concept of booting.**
**b. Describe the step-by-step booting process of a computer system.**
**QUESTION 4**
**a. Define file management.**
**b. Explain five common file operations and their importance.**
**QUESTION 5**
**a. Discuss the applications of computers in healthcare or animal health services.**
**b. Highlight four common computer problems and their solutions.**

**PRESENTED BY**

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| **COURSE TITLE:** | **COMPUTER APPRECIATION AND APPLICATION** |
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# ANSWERS

## QUESTION 1

### a. Definition of a Computer

A computer is an electronic machine designed to accept raw data, process it according to a set of programmed instructions, store it, and produce meaningful information as output. It performs calculations, logical operations, and data processing tasks with remarkable speed and accuracy, making it an indispensable tool in modern society. Computers are widely applied in different sectors such as education, banking, healthcare, communication, and business operations.

Over time, computers have evolved significantly from simple mechanical devices into highly advanced digital systems capable of multitasking and handling complex operations. Today, computers exist in various forms including desktops, laptops, tablets, and embedded systems in machines. Their ability to automate tasks, enhance productivity, ensure accuracy, and support decision-making processes makes them essential in both personal and professional environments.

### Four Major Functions of a Computer

1. **Input Function:** Receives raw data from input devices like keyboard and mouse.
2. **Processing Function:** Converts data into useful information using the CPU.
3. **Storage Function:** Saves data and processed information for future use.

4. **Output Function:** Displays processed information through output devices like monitors and printers.

**b. Basic Components of a Computer System**

1. **Input Devices**: These devices are used to feed data into the computer system. Examples include keyboard, mouse, scanner, and microphone.
2. **Central Processing Unit (CPU)**: The CPU is the brain of the computer that performs all calculations and controls system operations. It consists of the Control Unit (CU) and Arithmetic Logic Unit (ALU).
3. **Memory/Storage Devices**: These are used to store data and instructions. Primary memory includes RAM and ROM, while secondary storage includes hard drives and flash drives.
4. **Output Devices**: These devices present processed information to the user. Examples include monitor, printer, and speakers.

**QUESTION 2**

**a. Difference Between Hardware and Software**

| S/N | Aspect | Hardware | Software |
|---|---|---|---|
| 1 | Definition | Physical parts of a computer system | Programs and instructions that control hardware |
| 2 | Nature | Tangible (can be seen and touched) | Intangible (cannot be physically touched) |
| 3 | Examples | Keyboard, monitor, CPU | Operating system, applications |

| | | | |
|---|---|---|---|
| 4 | Durability | Subject to physical damage and wear | Does not wear out but may become obsolete |
| 5 | Dependency | Requires software to function effectively | Requires hardware to run |

**b. Two Main Types of Software**

**1. System Software**

System software is responsible for managing and controlling the computer hardware while providing a platform for other software to operate. It ensures that all components of the computer work together efficiently.

**Examples:**

- Operating systems (Windows, Linux)
- Device drivers
- Utility programs (antivirus, disk cleanup tools)

**2. Application Software**

Application software is designed to help users perform specific tasks such as writing documents, browsing the internet, or performing calculations.

**Examples:**

- Microsoft Word
- Microsoft Excel

- Web browsers like Chrome and Firefox

**QUESTION 3**

**a. Concept of Booting**

Booting refers to the process of starting or restarting a computer system by loading the operating system into the computer's main memory (RAM). This process prepares the system for use by ensuring that all necessary programs and hardware components are properly initialized.

There are two types of booting: cold booting, which occurs when the computer is powered on from an off state, and warm booting, which happens when the system is restarted without turning off the power. Booting is essential because, without it, the computer cannot operate or perform any task.

**b. Step-by-Step Booting Process**

1. **Power On:** The computer receives electrical power.
2. **POST Execution:** The system checks hardware components through Power-On Self-Test.
3. **BIOS/UEFI Activation:** Firmware identifies the boot device.
4. **Bootloader Loading:** The system loads the boot program.
5. **Operating System Loading:** The OS is transferred into RAM.
6. **System Ready:** Login screen or desktop is displayed for user interaction.

## QUESTION 4

### a. Definition of File Management

File management is the process of organizing, storing, retrieving, and maintaining files within a computer system. It involves arranging data in a structured manner so that users can easily access and manage their information whenever needed. File management systems help users create folders, name files appropriately, and store them in specific locations for easy retrieval.

Proper file management is essential for improving efficiency and preventing data loss. It enables users and organizations to maintain order, ensure data security, and optimize storage space. With effective file management, tasks such as searching, editing, and sharing files become easier and faster, thereby enhancing overall productivity.

### b. Five Common File Operations and Their Importance

1. **Creating Files**: This involves generating new files for storing information.

   Importance: Enables documentation and data storage.

2. **Copying Files**: This duplicates files from one location to another.

   Importance: Provides backup and facilitates sharing.

3. **Moving Files**: This transfers files between locations.

   Importance: Helps in organizing files efficiently.

4. **Deleting Files**: This removes unwanted or unnecessary files.

Importance: Frees storage space and reduces clutter.

5. **Renaming Files**: This changes the name of a file.

   Importance: Improves identification and organization of files.

**QUESTION 5**

**a. Applications of Computers in Healthcare / Animal Health Services**

1. **Electronic Record Keeping**: Computers are used to store patient or animal health records securely.
2. **Diagnosis and Medical Imaging**: Used in X-rays, scans, and laboratory diagnostics for accurate treatment.
3. **Telemedicine and Remote Care**: Enables healthcare professionals to consult patients remotely.
4. **Laboratory and Research Work**: Assists in analyzing samples and conducting medical research.
5. **Veterinary Management Systems**: Helps track animal health, vaccinations, and disease control.
6. **Drug Development and Monitoring**: Supports pharmaceutical research and monitoring of treatments.

**b. Four Common Computer Problems and Their Solutions**

1. **Slow System Performance**

**Cause:** Overloaded memory or too many running programs

**Solution:** Close unused applications and upgrade memory if necessary

2. **Virus and Malware Infection**

**Cause:** Downloading unsafe files

**Solution**: Install antivirus software and perform regular scans

3. **System Crash or Freezing**

**Cause**: Software errors or hardware issues

**Solution**: Restart the system and update software

4. **Hardware Malfunction**

**Cause**: Faulty components

**Solution**: Repair or replace the damaged hardware