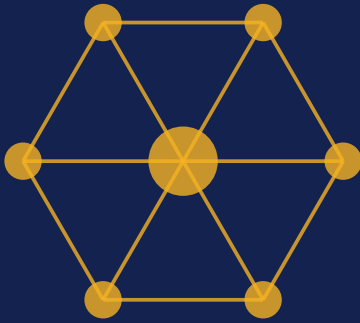


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CLASS 9 • COMPUTER SCIENCE & ENTREPRENEURSHIP

CHAPTER 1

Introduction to Systems

Master MCQ Guide

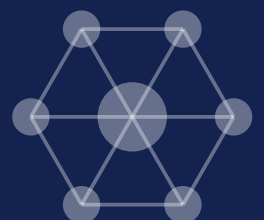
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Section 1: System Theory & Basic Concepts

1 What is the primary definition of a system?

A) A random collection of parts

B) An organized set of components coordinated to perform a designated function ✓

C) A standalone software program

D) A natural phenomenon without structure

✓ **Answer: B**

Explanation: A system isn't just a random bunch of items. It is an organized set of components where all parts are related and work together to achieve a specific, designated function or goal.

2**Which of the following is NOT a basic component of a system?**

- A) Objective
- B) Components
- C) Chaos**
- D) Environment

**✓ Answer: C**

Explanation: A system is defined by its objective, components, communication among components, and its environment. Chaos is the opposite of an organized system.

3**The objective of a system refers to:**

- A) Its physical size
- B) Its purpose or goal it wishes to fulfil**
- C) The number of components it has
- D) Its cost

**✓ Answer: B**

Explanation: Every system has a purpose or goal. Understanding this objective is crucial for analyzing how efficiently the system operates.

4

A computer system processing user data to produce meaningful outputs is an example of which type of objective?

- A) Achieving specific goals
- B) Supporting other systems
- C) Information processing ✓**
- D) Resource sharing

✓ **Answer: C**

Explanation: Information processing involves collecting, storing, processing, and distributing information. A computer taking raw data and turning it into useful output is the textbook definition of this.

5**A cell phone providing a platform to run different applications is an example of:**

- A) Information processing
- B) Supporting other systems**
- C) Achieving specific goals
- D) Environmental interaction

**✓ Answer: B**

Explanation: When a system provides a platform or infrastructure for other systems to work, it is "supporting other systems." The cell phone supports the apps.

6**The environment of a system includes:**

- A) Only the internal components
- B) Everything external to the system that interacts with it**
- C) Only the software components
- D) The system's objective

**✓ Answer: B**

Explanation: The environment encompasses all external factors, inputs, and outputs that interact with the system and influence its performance.

7

If the environment remains unchanged unless the system provides an output, it is called:

- A) Dynamic
- B) Static**
- C) Deterministic
- D) Non-deterministic



✓ **Answer: B**

Explanation: A static environment does not change on its own. It only changes when the system produces an output, causing a reaction.

8

A system where the impact of the output on the environment is characterized by inherent uncertainty is called:

A) Deterministic

B) Static

C) Non-deterministic



D) Dynamic

✓ Answer: C

Explanation: Non-deterministic environments involve randomness or probability. You cannot perfectly predict the outcome of the system's output.

9

Why is communication among system components crucial?

- A) To increase the cost of the system
- B) To ensure components work together smoothly to achieve objectives ✓**
- C) To make the system static
- D) To eliminate the need for an environment

✓ **Answer: B**

Explanation: Communication is the glue that holds a system together. Without it, components cannot coordinate their actions to achieve the system's objective.

Section 2: Types of Systems (Natural vs. Artificial)

10

Which of the following is a key difference between natural and artificial systems?

- A) Natural systems are created by humans
- B) Artificial systems exist independently of human involvement
- C) Natural systems occur in nature without human intervention ✓**
- D) Artificial systems are always biological

✓ **Answer: C**

Explanation: Natural systems (like galaxies, atoms) exist and operate independently of humans. Artificial systems (like screw gauges, cars) are created by humans for specific needs.

11 A galaxy is an example of which type of system?

- A) Artificial
- B) Natural**
- C) Social
- D) Knowledge

✓ **Answer: B**

Explanation: Galaxies are vast natural systems governed by natural laws, existing without human intervention.

12 Hydrogen gas forming when an electron, proton, and neutron combine is an example of a:

- A) Biological system
- B) Chemical system
- C) Physical system**
- D) Psychological system

✓ **Answer: C**

Explanation: Physical systems are composed of physical components (subatomic particles) governed by the laws of physics and atomic forces.

13 Biological systems emerge from:

A) Physical systems only

B) Chemical systems when molecules interact in complex ways ✓

C) Social systems

D) Artificial systems

✓ Answer: B

Explanation: The text specifies that biological systems (living organisms) emerge from chemical systems when molecules interact in complex ways to form living cells.

14 Thoughts, emotions, and mental processes are governed by which system?

A) Biological

B) Chemical

C) Psychological



D) Physical

✓ **Answer: C**

Explanation: Psychological systems involve the mind and behavior, emerging from biological systems when the brain's physical and chemical processes give rise to thoughts and emotions.

15 Which of the following is an example of an Artificial System?

A) The human brain

B) A screw gauge



C) The solar system

D) DNA

✓ **Answer: B**

Explanation: A screw gauge is a tool deliberately designed and created by humans to fulfill a specific function, making it an artificial system.

16

Knowledge systems are unique because they are developed to:

A) Build bridges

B) Capture, process, store, retrieve, and manage information

✓

C) Govern a country

D) Convert raw materials

✓ **Answer: B**

Explanation: Knowledge systems (like Mathematics, Logic, Databases) are designed specifically to manage information for decision-making and problem-solving.

17

Which of the following is NOT an example of a Knowledge System?

A) Mathematics

B) Logic

C) Databases

D) Civil Engineering



✓ **Answer: D**

Explanation: Civil Engineering is an Engineering System (applying concepts to build structures). Mathematics, Logic, and Databases are Knowledge Systems.

18

Designing a water treatment plant that purifies water using chemical processes is an example of:

A) Mechanical Engineering System

B) Chemical Engineering System



C) Electrical Engineering System

D) Civil Engineering System

✓ Answer: B

Explanation: Chemical Engineering Systems focus on converting raw materials into useful products through chemical processes, like water purification.

19

A home automation system that controls lighting and heating via a smartphone is an example of:

- A) Mechanical Engineering System
- B) Civil Engineering System
- C) Electrical Engineering System** ✓
- D) Software Engineering System

✓ **Answer: C**

Explanation: Electrical Engineering Systems involve the study and application of electricity and electronics to develop electrical systems.

20

What is the primary focus of Social Systems?

A) Converting raw materials

B) Maintaining order, providing services, and facilitating social connections ✓

C) Building physical infrastructure

D) Processing numerical data

✓ **Answer: B**

Explanation: Social systems are structured frameworks established by individuals to handle social interactions, governance, and communal endeavors.

21 Punjab University is an example of which type of system?

- A) Knowledge System
- B) Engineering System
- C) Social System** ✓
- D) Natural System

✓ **Answer: C**

Explanation: Academic institutions (like Punjab University) are Social Systems, providing educational services to students.

Section 3: System and Science

22 What is the nature of Natural Science?

- A) Prescriptive
- B) Descriptive** ✓
- C) Regulative
- D) Artificial

✓ **Answer: B**

Explanation: Natural science is descriptive because scientists seek to understand and describe natural phenomena as they exist.

23

Which of the following represents the correct sequence of the Empirical Cycle of Natural Science?

- A) **Observation → Question → Hypothesis → Experiment → Analysis → Conclusion** ✓
- B) Problem → Design → Implementation → Evaluation
- C) Hypothesis → Observation → Conclusion → Experiment
- D) Question → Analysis → Observation → Hypothesis

✓ **Answer: A**

Explanation: The empirical cycle starts with observation, leading to a question, forming a hypothesis, experimenting, analyzing the results, and drawing a conclusion.

24 Design Science is focused on:

- A) Describing natural phenomena
- B) Designing and creating artifacts to achieve specific goals ✓**
- C) Studying the mind
- D) Understanding chemical reactions

✓ **Answer: B**

Explanation: Design science is prescriptive. It aims to prescribe and create artificial systems (artifacts) to solve problems or achieve specific goals.

25 The Regulative Cycle of Design Science begins with:

- A) Solution Evaluation
- B) Solution Implementation
- C) Problem Investigation/Identification ✓**
- D) Solution Design

✓ **Answer: C**

Explanation: The regulative cycle starts by identifying the problem, then designing a solution, implementing it, and finally evaluating it.

26 Computer Science is the study of:

A) Only how to build hardware

B) How computers work, including what they can do and their limitations ✓

C) Only natural systems

D) Only social systems

✓ **Answer: B**

Explanation: Computer Science encompasses both natural science (understanding the basic rules of how computers work) and design science (creating and improving tools).

27

Studying different sorting algorithms to understand their efficiency is an example of:

A) Design Science of Computer Science

B) Natural Science of Computer Science ✓

C) Social Systems

D) Artificial Engineering

✓ Answer: B

Explanation: Analyzing existing algorithms to understand their characteristics and efficiency is the Natural Science aspect of Computer Science.

28

Designing a new programming language to make it easier for developers to write secure programs is an example of:

A) Natural Science of Computer Science

B) Design Science of Computer Science ✓

C) Physical Science

D) Knowledge Systems

✓ **Answer: B**

Explanation: Creating new tools or applications to solve specific problems falls under the Design Science of Computer Science.

Section 4: Computer as a System & Components

29 What is the main objective of a computer?

A) To browse the internet

B) To perform computations, process data, and execute tasks efficiently ✓

C) To play games

D) To display images

✓ **Answer: B**

Explanation: While computers do many things, their fundamental objective is to process data, perform computations, and execute instructions efficiently.

30

Which of the following is an Interface Component of a computer?

A) CPU

B) RAM

C) Keyboard



D) Motherboard

✓ Answer: C

Explanation: Interface components refer to the fundamental parts that allow users to interact with the computer, such as input devices (keyboard, mouse) and output devices (monitor).

31

Which component acts as the Central Processing Unit responsible for computations?

- A) RAM
- B) CPU**
- C) Hard Drive
- D) Motherboard



✓ **Answer: B**

Explanation: The CPU (Central Processing Unit) is the brain of the computer, responsible for executing commands and performing computations.

32

Which of the following is a Processing Component of a computer?

- A) Monitor
- B) Keyboard
- C) RAM**
- D) Printer



✓ **Answer: C**

Explanation: Processing components consist of the CPU, RAM (transient storage), storage drives (permanent storage), and the Operating System.

33 What is the function of the Address Bus?

- A) Transports data
- B) Maintains data destination information ✓**
- C) Transports control electrical signals
- D) Connects the monitor

✓ **Answer: B**

Explanation: The system bus has three types: Data bus (transports data), Address bus (maintains destination info), and Control bus (transports control signals).

34 Which of the following is part of the computer system's environment?

- A) CPU
- B) RAM
- C) Power Supply ✓**
- D) ALU

✓ **Answer: C**

Explanation: The environment includes external devices that interact with the computer, such as power supply, networks, and peripherals (printers, scanners).

35

The motherboard serves as the primary circuit board that:

A) Performs mathematical calculations

B) Interconnects all components using cables and circuits ✓

C) Stores data permanently

D) Displays output

✓ **Answer: B**

Explanation: The motherboard is the central hub that physically connects all communication components, allowing them to interact.

Section 5: Von Neumann Architecture

36**The Von Neumann architecture was developed in the:**

A) 1920s

B) 1940s

C) 1960s

D) 1980s

✓ Answer: B

Explanation: Named after mathematician and physicist John von Neumann, this architecture was developed in the 1940s and serves as the model for most modern computers.

37

Which of the following is NOT a primary component of the Von Neumann architecture?

- A) Memory
- B) Central Processing Unit (CPU)
- C) Input and Output mechanisms

D) Graphics Processing Unit (GPU)

✓

✓ **Answer: D**

Explanation: The Von Neumann architecture delineates four primary components: Memory, CPU, Input, and Output. The GPU is a modern addition, not part of the original paradigm.

38

The CPU consists of two main components:

- A) RAM and ROM
- B) ALU and CU**
- C) Input and Output
- D) Data Bus and Address Bus

✓

✓ **Answer: B**

Explanation: The CPU is made up of the Arithmetic Logic Unit (ALU) which performs math/logic, and the Control Unit (CU) which governs activities.

39 What is the function of the Arithmetic Logic Unit (ALU)?

- A) Decodes instructions
- B) Performs mathematical computations and logical operations ✓**
- C) Stores data permanently
- D) Manages data transmission

✓ **Answer: B**

Explanation: The ALU handles the numerical values and performs all the math and logic, while the CU supervises the procedure.

40 What is the correct sequence of the Von Neumann execution cycle?

- A) Decoding, Fetching, Execution, Storing
- B) Fetching, Decoding, Execution, Storing ✓**
- C) Execution, Fetching, Decoding, Storing
- D) Storing, Fetching, Decoding, Execution

✓ **Answer: B**

Explanation: The CPU first fetches the instruction from memory, decodes it to understand what to do, executes it (ALU/CU), and then stores the result.

41 During the Fetching stage, where is the address of the next instruction stored?

- A) Instruction Register (IR)
- B) Program Counter (PC)** ✓
- C) Arithmetic Logic Unit (ALU)
- D) Control Unit (CU)

✓ **Answer: B**

Explanation: The Program Counter (PC) stores the memory address of the next instruction to be executed.

42 During the Decoding stage, which component decodes the opcode?

- A) ALU
- B) Memory
- C) Control Unit (CU)** ✓
- D) Program Counter

✓ **Answer: C**

Explanation: The Control Unit (CU) decodes the operation code (opcode) of the instruction to determine the required procedures and data.

43

What is the role of the Instruction Register (IR) during fetching?

- A) Stores the final result
- B) Holds the instruction retrieved from memory ✓**
- C) Performs the calculation
- D) Stores the address of the next instruction

✓ **Answer: B**

Explanation: Once the address is stored in the PC, the instruction located at that location is retrieved and placed into the Instruction Register (IR).

44

What does the characteristic "Single Memory Store" in Von Neumann architecture mean?

A) Data is stored in RAM, and instructions are stored in ROM

B) Both program instructions and data are stored in the same memory space ✓

C) Memory is stored on the hard drive only

D) The CPU has its own internal memory

✓ **Answer: B**

Explanation: In this architecture, both the program's code (instructions) and the data it processes are stored together in the same main memory (RAM).

45 What is the "Von Neumann bottleneck"?

- A) The CPU is too fast for the monitor
- B) A single memory area limits the CPU's ability to retrieve instructions and data quickly ✓**
- C) The ALU cannot perform multiplication
- D) The system cannot run multiple programs

✓ **Answer: B**

Explanation: Because instructions and data share the same memory and bus, the CPU often has to wait for data to be transferred, creating a bottleneck in performance.

46

Which of the following is an advantage of the Von Neumann architecture?

- A) It prevents security risks
- B) Simplified design and flexibility ✓**
- C) It has no bottleneck
- D) It requires separate memory for data and instructions

✓ **Answer: B**

Explanation: Combining instructions and data into a single memory area simplifies the architecture and provides flexibility, as programs can be easily changed by changing memory contents.

47

What is a major disadvantage of the Von Neumann architecture?

- A) It is too expensive
- B) Security risks, as one program can alter another's instructions ✓**
- C) It cannot perform logical operations
- D) It requires too much electricity

✓ **Answer: B**

Explanation: Because instructions and data share the same memory, a buggy or malicious program can accidentally or intentionally overwrite another program's instructions, posing a security risk.

48 The "Stored Program Concept" means:

A) Programs are stored on a hard drive only

B) Programs are stored in memory and can be changed by the computer ✓

C) Programs cannot be modified

D) Programs are stored in the CPU

✓ **Answer: B**

Explanation: This concept means that a program's instructions are stored in the computer's memory, and the computer can modify these instructions just like data.

Section 6: Computing Systems, Networks, and Internet

49 A computing system requires which three basic things to run?

A) CPU, RAM, Monitor

B) Hardware, Software, Electricity



C) Input, Output, Storage

D) Windows, MacOS, Linux

✓ **Answer: B**

Explanation: Hardware is the tangible components, Software provides the instructions, and Electricity is the power source that enables it all to function.

50 Which of the following is System Software?

A) Microsoft Word

B) Google Chrome

C) Operating System (e.g., Windows)



D) Video Game

✓ **Answer: C**

Explanation: System Software (like Windows, macOS, Linux) manages the computer's resources. Application software (like Word, Chrome) is for the user to perform specific tasks.

51**Which of the following is an Application Software?**

A) Windows 11

B) Linux

C) Web Browser

D) Device Drivers

✓ Answer: C

Explanation: Application software is specifically developed to carry out certain functions for the user, such as word processors, web browsers, and games.

52

Which of the following is NOT a type of Computing System mentioned in the chapter?

- A) Computer
- B) Software
- C) Network

D) Hardware



✓ **Answer: D**

Explanation: The types of computing systems mentioned are Computer Systems, Software Systems, Computer Networks, and the Internet. Hardware is a component, not a type of computing system in this context.

53

What is the primary objective of a Computer Network?

A) To play games

B) Resource Sharing, Communication, and Data Management ✓

C) To increase the physical size of the computer

D) To replace the CPU

✓ **Answer: B**

Explanation: Networks allow multiple users to share resources (like printers), communicate efficiently, and manage data collaboratively.

54 Routers and Switches are examples of:

- A) Network Software
- B) Networking Hardware** ✓
- C) System Software
- D) Application Software

✓ **Answer: B**

Explanation: Routers (transmit data packets between networks) and Switches (connect devices within a network) are physical networking hardware components.

55 What is the role of TCP/IP in a network?

- A) It is a physical cable
- B) It is a protocol (rules) for data exchange** ✓
- C) It is a type of router
- D) It is an operating system

✓ **Answer: B**

Explanation: TCP/IP (Transmission Control Protocol/Internet Protocol) is the core suite of rules and conventions that govern data transmission over the Internet.

56

Which network type connects computers within a single building or school?

A) WAN

B) LAN



C) Internet

D) MAN

✓ **Answer: B**

Explanation: A Local Area Network (LAN) connects computers in a specific, limited area such as a single building, school, or office.

57

A Wide Area Network (WAN) connects computers across:

A) A single room

B) A single building

C) Cities, nations, and continents



D) A single campus

✓ **Answer: C**

Explanation: WANs span larger geographic regions. The Internet is the largest example of a WAN, connecting computers worldwide.

58

Which protocol is known for being faster but less reliable than TCP?

A) FTP

B) POP

C) UDP



D) HTTP

✓ Answer: C

Explanation: User Datagram Protocol (UDP) is faster but less reliable because it doesn't guarantee delivery or order of packets, unlike TCP.

59

Which protocol is used for transferring files between computers?

A) FTP



B) POP

C) TCP

D) UDP

✓ Answer: A

Explanation: File Transfer Protocol (FTP) is specifically designed for transferring files between computers over a network.

60

Which protocol is used for retrieving emails from a server?

A) FTP

B) POP



C) TCP

D) IP

✓ **Answer: B**

Explanation: Post Office Protocol (POP) is used by email clients to retrieve emails from a mail server.

61

The Internet is primarily designed to:

A) Store physical files

B) Facilitate communication and data exchange between computers globally



C) Replace LANs

D) Run only social media

✓ **Answer: B**

Explanation: The Internet is a vast, global system of interconnected networks whose primary objective is to facilitate communication and data exchange.

62

According to the "Tidbits" section, how fast does data travel on the internet?

- A) Speed of sound
- B) Speed of light** ✓
- C) 100 miles per hour
- D) It doesn't travel, it stays in one place

✓ **Answer: B**

Explanation: The text highlights that data on the internet travels at the speed of light, allowing messages to cross continents almost instantaneously.

63

How many websites and connected people are approximately on the internet according to the text?

- A) 1 million websites, 1 billion people
- B) 1.5 billion websites, 4 billion people ✓**
- C) 10 billion websites, 8 billion people
- D) 500 million websites, 2 billion people

✓ **Answer: B**

Explanation: The text states there are over 1.5 billion websites and more than 4 billion people connected to the internet globally (at the time of publication).

64 What acts as a blueprint for life in biological systems?

A) The brain

B) DNA



C) The heart

D) Neurons

✓ **Answer: B**

Explanation: The text explains that DNA is a system containing instructions for an organism to grow, develop, and reproduce, acting as a blueprint passed down through generations.

65 The human brain can perform about how many operations per second?

A) 10^6 (1 million)

B) 10^{10} (10 billion)

C) 10^{16} (10 quadrillion)



D) 10^{20} (100 quintillion)

✓ **Answer: C**

Explanation: According to the "Tidbits", the human brain can perform about 10^{16} (10 quadrillion) operations per second, making it highly efficient.

66

What is the main difference between a Static and Dynamic environment?

- A) Static environments are always changing; Dynamic environments never change
- B) Static environments remain unchanged unless the system provides output; Dynamic environments can change independently ✓**
- C) Static environments are artificial; Dynamic environments are natural
- D) There is no difference

✓ **Answer: B**

Explanation: A static environment is stable until the system acts upon it. A dynamic environment changes on its own, and the system must adapt to these changes.

67

Which of the following is an example of a Knowledge System?

A) A bridge

B) A database management system



C) A government

D) A galaxy

✓ **Answer: B**

Explanation: Databases are explicitly mentioned as Knowledge Systems because they are software designed to manage, retrieve, and update data efficiently.

68

What is the objective of "Supporting other systems" in system theory?

- A) To process data internally
- B) To provide a platform or infrastructure for other systems to work ✓**
- C) To achieve a specific goal like a thermostat
- D) To destroy other systems

✓ Answer: B

Explanation: A system that supports others provides the necessary foundation or platform. For example, a cell phone supports running various apps.

69 Which of the following represents a Physical System?

- A) A mathematical formula
- B) A government
- C) Atoms and planets ✓**
- D) A software program

✓ **Answer: C**

Explanation: Physical systems are composed of physical components governed by the laws of physics, such as atoms, planets, and galaxies.

70 What does the Control Unit (CU) do during the Execution stage?

- A) Performs the mathematical calculation
- B) Handles data transmission activities ✓**
- C) Stores the result in RAM
- D) Fetches the instruction

✓ **Answer: B**

Explanation: While the ALU performs the math, the CU is responsible for managing and handling the data transmission activities during execution.

71 Which bus carries the actual data between components?

- A) Address Bus
- B) Control Bus
- C) Data Bus** ✓
- D) System Bus

✓ **Answer: C**

Explanation: The Data Bus transports the actual data. The Address Bus carries destination info, and the Control Bus carries control signals.

72 Which of the following is a Social System?

- A) A computer network
- B) A government** ✓
- C) A database
- D) A car engine

✓ **Answer: B**

Explanation: Governments are organized institutions that wield authority and control over a community or country, making them Social Systems.

73 The empirical cycle is associated with which type of science?

A) Design Science

B) Natural Science ✓

C) Computer Science

D) Social Science

✓ **Answer: B**

Explanation: The empirical cycle (Observation, Hypothesis, Experiment, etc.) is the systematic way natural scientists validate their understanding of natural phenomena.

74 In the Von Neumann architecture, where is the program counter located?

A) In the RAM

B) In the CPU ✓

C) In the hard drive

D) In the monitor

✓ **Answer: B**

Explanation: The Program Counter (PC) is a special register located inside the CPU that holds the address of the next instruction.

75

What happens during the "Storing" stage of the Von Neumann cycle?

- A) The instruction is fetched from memory
- B) The CPU decodes the instruction
- C) The outcome is returned to memory or sent to an output device ✓**
- D) The ALU performs the calculation

✓ **Answer: C**

Explanation: After execution, the result (outcome) is either stored back into memory or sent to an output device for display.

76

Which protocol is considered the core protocol that governs data transmission over the Internet?

- A) FTP
- B) POP
- C) UDP

D) TCP/IP



✓ **Answer: D**

Explanation: TCP/IP (Transmission Control Protocol/Internet Protocol) is the fundamental suite of protocols that makes the Internet work.

77

What type of software manages the computer's resources, such as Windows and macOS?

- A) Application Software
- B) System Software** ✓
- C) Utility Software
- D) Malware

✓ **Answer: B**

Explanation: System Software (Operating Systems) manages the hardware and software resources of the computer.

78

Which of the following is NOT an objective of a computer network?

- A) Resource Sharing
- B) Communication
- C) Data Management
- D) Increasing CPU clock speed** ✓

✓ **Answer: D**

Explanation: Increasing CPU clock speed is a hardware upgrade. Networks are for sharing resources, communicating, and managing data.

79

What is the function of a Router in a network?

- A) Connect devices within a single LAN
- B) Transmit data packets between networks ✓**
- C) Store files permanently
- D) Manage the operating system

✓ **Answer: B**

Explanation: Routers are hardware devices that route/transmit data packets between different networks (e.g., between your home network and the internet).

80

Which of the following best describes the relationship between hardware and software?

A) Hardware dictates the rules; software is the physical device

B) Hardware is the tangible component; software is the collection of instructions ✓

C) They are the same thing

D) Software is more important than hardware

✓ **Answer: B**

Explanation: Hardware refers to the physical, tangible components (CPU, RAM). Software refers to the intangible instructions that tell the hardware what to do.

81

A system that aims to convert fuel into mechanical energy efficiently is an example of:

- A) Information processing
- B) Supporting other systems
- C) Achieving specific goals ✓**
- D) Knowledge system

✓ **Answer: C**

Explanation: A car engine system has a specific goal: convert fuel to mechanical energy efficiently. This falls under "Achieving specific goals."

82

Which of the following is an example of an Engineering System?

A) Mathematics

B) Logic

C) Civil Engineering



D) Databases

✓ **Answer: C**

Explanation: Engineering Systems apply engineering concepts to solve technical challenges (Civil, Mechanical, Chemical, Electrical, Software). Mathematics, Logic, and Databases are Knowledge Systems.

83

Which characteristic of Von Neumann architecture allows a program to be easily changed?

- A) Single Memory Store
- B) Sequential Execution
- C) Stored Program Concept ✓**
- D) The Von Neumann bottleneck

✓ **Answer: C**

Explanation: The Stored Program Concept means instructions are stored in memory just like data, so changing the program is as simple as changing the memory contents.

84 In a biological system, what do neurons do?

A) Pump blood

B) Send signals to each other allowing thought, movement, and emotion ✓

C) Digest food

D) Store DNA

✓ **Answer: B**

Explanation: The "Tidbits" section explains that neurons in the brain send signals to each other, forming a complex communication network that allows thinking and movement.

85

What is the primary purpose of the system bus in a computer?

A) To provide electricity to the computer

B) To facilitate the movement of data between components ✓

C) To store files permanently

D) To display images on the monitor

✓ **Answer: B**

Explanation: The system bus is a communication mechanism (comprising Data, Address, and Control buses) that facilitates the movement of data between components inside the computer.

86

Which of the following is an example of a Psychological System?

A) A chemical reaction

B) The human mind and behavior



C) A computer network

D) A government

✓ **Answer: B**

Explanation: Psychological systems involve the mind, thoughts, emotions, and mental processes, governed by the principles of Psychology.

87 The environment of the Internet is described as:

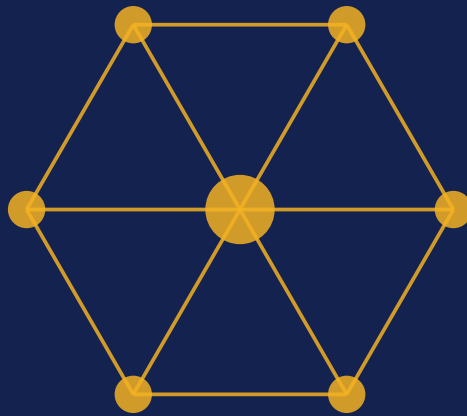
- A) Static and unchanging
- B) Diverse and dynamic, connecting various types of networks globally ✓**
- C) Limited to a single building
- D) Purely artificial with no human interaction

✓ **Answer: B**

Explanation: The Internet operates in a diverse and dynamic environment, connecting homes, offices, data centers, and mobile networks across different locations globally.

Exam Tip

Pay special attention to the differences between Natural/Artificial systems, the exact stages of the Von Neumann cycle (**Fetch, Decode, Execute, Store**), and the classifications of software (**System vs. Application**). These are classic high-yield topics for 9th-grade annual exams! Good luck!



Best of Luck!

**You have completed
Chapter 1: Introduction to Systems**

*Revise these MCQs again and again —
practice makes perfect!*

87 MCQs ✓ Mastered

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Thank you for studying with ScholarEye