



B.K. BIRLA CENTRE FOR EDUCATION

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



TERM 1 EXAMINATION (2025-26)
ARTIFICIAL INTELLIGENCE

Class: VI

Date: 03-09-2025

Admission No.

Time : 2 hrs.

Max Marks: 50

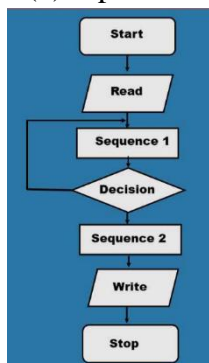
Roll No. :.....

ANSWER KEY

I. Multiple Choice Questions : (Answer any twelve)

(12 X 1 = 12)

- (1) The place where programs and executable instructions are stored is called
(a) **Memory** (b) Software (c) Control Unit (d) ALU
- (2) is a small, compact, portable device to store large amounts of data.
(a) CDs (b) Blu-ray disc (c) **Pen drive** (d) Hard disk
- (3) Which of the following is an input device ?
(a) **Scanner** (b) Printer (c) Speakers (d) Plotter
- (4) Monitor is also known as the
(a) **Visual Display Unit** (b) Virtual Display Unit
(c) Video Data Unit (d) Virtual Data Unit
- (5) consists of the physical parts of a computer device.
(a) Software (b) **Hardware** (c) Instruction (d) None of the above
- (6) A flowchart needs to represent the situation where for each mark a student is awarded "Pass" or "Fail".... the system will consider the mark and if it's 50 or over award "Pass", else it awards "Fail". This is an example of which of the algorithm construct ?
(a) **Decision** (b) Loop (c) Sequence (d) All of these
- (7) In a flowchart how are symbols connected ?
(a) Symbols do not get connected together in a flowchart
(b) **With lines and an arrow to show the direction of flow**
(c) With dashed lines and numbers
(d) With solid lines to link events
- (8) Which of the following is a pictorial representation of an algorithm ?
(a) Pseudocode (b) Program (c) **Flowchart** (d) Algorithm
- (9) Kite/Diamond shaped box in a flowchart is used for :
(a) Decision (b) Input (c) Output (d) Process
- (10)



- (a) **This is a flowchart** (b) This is an algorithm
 (c) This is a pseudocode (d) This is a decision chart
- (11) Due to which of these abilities has human beings emerged as the dominant species on earth ?
 (a) great strength (b) great speed (c) great size (d) **high intelligence**
- (12) Which of the following is not related to intelligence ?
 (a) It lets us to solve problems, understand concepts and act purposefully
 (b) It allows us to imagine and use our experience in life to solve problems
 (c) It allows us to be creative and create objects and concepts of beauty and originality
 (d) **It helps us to act violently and wage Wars**
- (13) Which of the following activities involves the use of AI Technology ?
 (a) **sorting of emails into folders based on content**
 (b) booting up the computer
 (c) adding up numbers using a calculator
 (d) changing coloured photographs into black and white
- (14) Which of the following is not true about AI ?
 (a) the use of AI allows business owners to earn more money
 (b) AI can replace humans in clerical and repetitive tasks
 (c) John McCarthy coined the term Artificial Intelligence
 (d) **Development of AI systems have started only in last 10 years**
- (15) Which of the following is not a sign of Intelligence ?
 (a) solve problems (b) creating a poem (c) writing an original story (d) **Taking bath**

II. Fill in the blanks : (Answer any eight)

(8 X 1 = 8)

(Sophia, Amazon Go, Netflix, Chatbot, Shakey,
 John McCarthy, Smart speaker, Tag that photo, Intelligence, Siri)

- (1) Sophia
- (2) Shakey
- (3) Siri
- (4) Netflix
- (5) Tag that photo
- (6) Amazon Go
- (7) Smart Speaker
- (8) Chatbot
- (9) Intelligence
- (10) John McCarthy

III. State True/False : (Answer any 4)

(4 X 1 = 4)

- (1) True
- (2) True
- (3) True
- (4) False
- (5) True

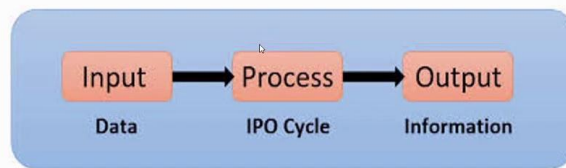
IV. Short Answer Type Questions: (Answer any seven)

(7 X 2 = 14)

- (1) Explain the IPO cycle. Draw diagram also.

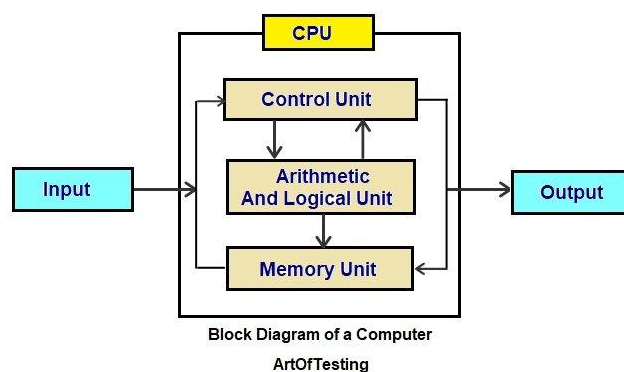
Ans. : It is termed as Input – Processing - Output. A computer receives data as input, stores it and then produces output.

Input-Process-Output Cycle (IPO cycle)



(2) Draw block diagram of a computer system. Explain each part of it.

Ans. :



1. Input Devices

- **Purpose:** To enter data and instructions into the computer.
- **Examples:** Keyboard, mouse, scanner, microphone.
- **Function:** Converts user input into a form that the computer can understand (binary form).

2. Central Processing Unit (CPU)

- **Known as:** The *brain* of the computer.
- **Main Components:**
 1. **Control Unit (CU)**
 - Directs the flow of data between input, memory, ALU, and output devices.
 - Acts like a traffic controller, telling other parts what to do.
 2. **Arithmetic and Logic Unit (ALU)**
 - Performs mathematical calculations (addition, subtraction, multiplication, division).
 - Performs logical comparisons (greater than, equal to, less than).
 3. **Registers (inside CPU)**
 - Small, high-speed storage locations for temporary data.

3. Primary Memory (Main Memory)

- **Types:**
 - **RAM (Random Access Memory):** Stores data temporarily while the computer is working.
 - **ROM (Read Only Memory):** Stores permanent instructions (like boot-up programs).
- **Function:** Holds data and instructions currently in use.

4. Output Devices

- **Purpose:** To present the processed data (information) to the user.
- **Examples:** Monitor, printer, speakers.

- **Function:** Converts binary results into human-readable form.

5. Storage Devices (*Not shown in simple diagram, but important*)

- **Secondary Storage:** Hard disk, SSD, USB drive.
- **Function:** Stores data permanently for later use.

(3) Explain an algorithm using an example.

Ans. : An algorithm is a step by step procedure of solving a problem. It is commonly used for data processing, calculation and other related computer and mathematical operations.

Example of Algorithm :

Step 1 : Take the ingredients

Step 2 : Mix ingredients

Step 3 : Pour ingredients mixture into a pan

Step 4 : Put it in an oven

Step 5 : Bake until ready

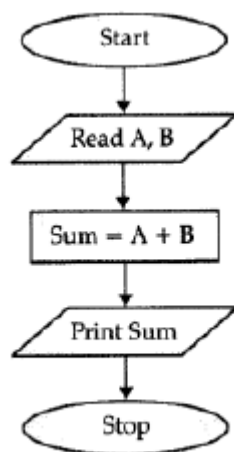
Step 6 : If ready, remove

Step 7 : Let it cool

Step 8 : Serve

(4) Draw a flowchart to find the sum of two numbers.

Ans. :



(5) Give any four examples of display of Intelligence in the animal world i.e. apart from humans.

Ans. : Three examples of display of intelligence in the animal are :

- Parrots can exactly mimic the words.
- Elephants are good at team work.
- Dolphins can identify themselves in the mirror.

(6) Define :

Human Intelligence : It is a mental quality, that consists of the abilities to learn from experience, adapt to new situations, understand and handle abstract concepts, and use knowledge to manipulate one's environment.

Artificial Intelligence : The ability to learn and understand, to solve problems and to make decisions.

(7) Define AI Winter.

Ans. : From the 1970s to the mid 1990s, computer scientists dealt with an acute shortage of funding for research on artificial Intelligence. These years were therefore known as AI winters.

(8) Define :

(a) **Alexa :** Amazon created Amazon Alexa, in 2014, a home assistant that developed into smart speakers that function as personal assistants.

(b) **Apple's Siri :** Apple released SIRI, in 2011, a virtual assistant on Apple iOS operating system. Siri uses a natural language user interface to infer, observe, answer and recommend things to its human user.

(9) Define :

(a) **Chatbot :** A chatbot is a software application used to conduct an online chat conversation via text or text to speech, in lieu of providing direct contact with a live human agent. Chat bot also known as "conversational agents" are software applications that mimic written or spoken human speech for the purpose of simulating a conversation or interaction with a real person.

(b) **Smart Speakers :** It rely on a set of complex AI technologies. They listen to sound waves and convert them into meanings using natural Language Understanding (NLU). Once the meanings are understood, the smart speaker responds using Natural Language Generation (NLG) technology.

V. Long Answer Type Questions : (Answer any four)

(4 X 3 = 12)

(1) Write the use of the following devices :

Webcam : It is an input device which transmit pictures over the internet. It is used for video conferencing, and recording images.

Microphone : It is used to record sounds using the computer. It is used for video conferencing.

Digital Camera : It is a camera that produces digital images that can be stored on a computer, displayed on a screen and can be printed.

(2) Differentiate between an Algorithm and Flowchart.

Ans. :

Algorithm	Flowchart
1. It is a step by step solution to the problem	1. It is also a step by step solution to the problem but in the pictorial form
2. In it, we use simple English	2. In it, we use a special symbol like an input, or output box
3. The algorithm provides either to the computer or to a human being an unambiguous instruction to solve a problem.	3. It provides a better understanding of existing and prepared methods and procedures and systems.

(3) Write and explain any three features of Intelligence.

Ans. :

(a) **Handling incomplete data :** Interpreting complete information from incomplete data

- (b) Handling contradictory data : Making sense from data having contradiction and ambiguity
- (c) Handling uncertain data : Making sense from fuzzy or uncertain data
- (d) Handling heuristics
- (e) Ability to learn

(4) Describe the following : (a) Google Home (b) Sophia (c) Cortana

Ans. :

Sophia : In 2016, a humanoid robot named Sophia was created by Hanson Robotics. She is known as the first robot citizen. She has ability to see (image recognition), make facial expressions and communicate through AI.

Google Home

- Google Home is a **smart speaker** developed by Google that works with the Google Assistant.
- It can perform tasks like playing music, controlling smart home devices, answering questions, setting reminders, and providing news updates using **voice commands**.

Cortana

- Cortana is a **virtual assistant** developed by Microsoft.
- It helps users with tasks such as setting reminders, searching the web, opening apps, and managing schedules using **voice or text commands**.
- It is integrated into Windows operating systems and some Microsoft apps.

(5) Explain the technology used in Driverless cars.

Ans. : Driverless cars, also known as autonomous vehicles (AVs) or self-driving cars, rely on a combination of advanced technologies to navigate and operate without human intervention. These technologies work together to perceive the environment, make decisions, and control the vehicle. AI can evaluate the driving environment and driver condition based on information obtained from different external and internal sensors.

(6) Explain the use of AI in following fields :

(a) Web Search

- AI is used in web search engines (like Google, Bing) to **understand the user's query**, predict intent, and provide the most relevant results.
- It uses techniques like **natural language processing (NLP)** and **machine learning** to rank pages, detect spam, and personalize search results based on past activity.

(b) Music and Video Recommendations

- AI analyzes your listening and viewing history to **predict your preferences**.
- Platforms like **Spotify, YouTube, and Netflix** use AI algorithms to recommend songs, playlists, or videos you might enjoy, making the experience more personalized and engaging.

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