



**BK BIRLA CENTRE FOR EDUCATION**  
**SARALA BIRLA GROUP OF SCHOOLS**  
**SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL**  
**MID TERM EXAMINATION 2024-25**  
**ARTIFICIAL INTELLIGENCE**



**Class: VI**  
**Date: 26.09.2024**  
**Name: .....**

**Duration: 2 hrs.**  
**Max Marks: 50**  
**Exam No. :**

**General Instructions:**

1. Please read the instructions carefully.
2. This Question Paper consists of 18 questions in two sections: Section A & Section B.
3. Section A has Objective type questions (MCQ, Fill in the blanks, Match the following) 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 (24 MARKS):**
  - i. This section has 03 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 (26 MARKS):**
  - i. This section has 15 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.

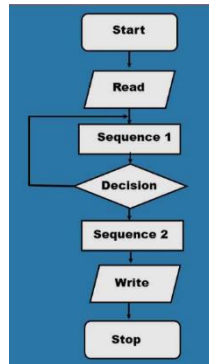
**MARKING SCHEME**

**SECTION A: OBJECTIVE TYPE QUESTIONS**

**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) Devices through which the computer shows the output of its computation are known as  
(a) Input (b) **Output** (c) Control (d) Plotter
- (4) 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
- (5) What symbol is used to represent output in a flowchart ?  
(a) Circle (b) Square (c) **Parallelogram** (d) Kite shaped box
- (6) 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

(7)



- (a) This is a flowchart (b) This is an algorithm  
(c) This is a pseudocode (d) This is a decision chart

(8) 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**

(9) 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**

(10) 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

(11) 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**

(12) Recommended videos shown to users on Netflix, Amazon Prime etc. uses ..... technology.

- (a) **Artificial Intelligence** (b) Augmented Reality  
(c) Virtual Reality (d) All of these

(13) Which of the following is not a chatbot ?

- (a) ELIZA (b) ALICE (c) MITSUKU (d) **PAC-MAN**

(14) ..... is your on the go encyclopaedia.

- (a) **Amazon Echo** (b) Netflix (c) Amazon Prime (d) Amazon Go

(15) A home equipped with lighting, heating and electronic devices that can be controlled remotely by smartphone or computer is called a .....

- (a) **Smart Home** (b) Intelligent Home  
(c) Sustainable Home (d) Sensor Home

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

**(8 X 1 = 8)**

( Honda, Amazon Go, Kismet, Sophia, Tag that photo, Shakey, Smart speaker, Cortana, Arthur Samuel, Siri, Netflix )

- (1) Arthur Samuel  
(2) Shakey  
(3) Honda  
(4) Kismet  
(5) Siri  
(6) Sophia  
(7) Cortana

- (8) Netflix
- (9) Tag that photo
- (10) Amazon Go
- (11) Smart Speaker

**III. Match the following :**

**(4 X 1 = 4)**

COLUMN A	COLUMN B
1. Deep Blue, a chess playing computer was developed by	(a) Siri
2. An autonomous robot vacuum cleaner	(b) Google Home
3. A virtual assistant works on iOS	(c) Microsoft
4. A smart speaker that uses AI to act as a personal assistant	(d) Roomba

**Ans. :**

COLUMN A	COLUMN B
1. Deep Blue, a chess playing computer was developed by	(c) Microsoft
2. An autonomous robot vacuum cleaner	(d) Roomba
(e) A virtual assistant works on iOS	(a) Siri
(f) A smart speaker that uses AI to act as a personal assistant	(b) Google Home

**SECTION B: SUBJECTIVE TYPE QUESTIONS**

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

**(7 X 2 = 14)**

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

**Ans. :** IPO cycle is termed as Input Process output. Input allow data an instructions to be entered in a computer. The computer performs useful operations by manipulating the data in many ways. It is Processing. The device that allow information to be represented to the user, such as monitor or printer.

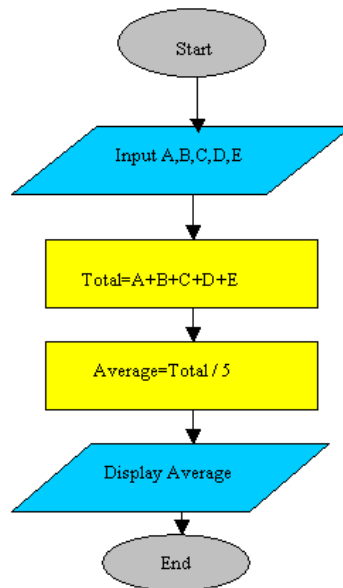
(2) Explain an algorithm using an example.

**Ans. :** An algorithm is a step by step procedure to solve a problem.

- Bake a cake
- Take the ingredients
- Mix ingredients
- Pour ingredients mixture into a pan
- Put it in an oven
- Bake until ready
- If ready, remove
- Let it cool
- Serve

(3) Draw a flowchart to find the average of five given numbers.

Ans. :



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

Ans. :

- (i) Parrots can exactly mimic the words.
- (ii) Elephants are good at team work.
- (iii) Dolphins can identify themselves in the mirror.
- (iv) Chameleon can change its colour.

(5) Define :

(a) **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.

(b) **Artificial Intelligence** : The ability to learn and understand, to solve problems and to make decisions.

(6) 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.

(7) Define :

(a) **Chatbot** : It 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.

(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).

(8) Write and explain any two features (examples) of the use of Artificial Intelligence in "Smart Homes".

Ans. : Control everything at your fingertips

Run personalised schedules

Talk to your home or make it talk

Intelligent security

Talk to your guests from anywhere

Ask almost anything and everything

Smoke and temperature sensing

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

**(4 X 3 = 12)**

**(1)** Write the use of the following devices :

- (a) Printer :** It is an external hardware output device that prints text or graphics on paper.
- (b) Scanner :** It is an input device used to record data on to the computer. It uses the pictures and pages of text as input. It scans the picture or a document.
- (c) Webcam :** It is used to take pictures in digital form and store the photographs in the computer. It is used with instant messaging and for recording images.

**(2)** Differentiate between an Algorithm and Flowchart.

**Ans. :**

<b>Algorithm</b>	<b>Flowchart</b>
It is a step by step solution to the problem	It is also a step bt step solution to the problem but in the pictorial form
Here, we use simple english	Here, we use a special symbol like an input or output box
The algorithm provides either to the computer or to a human being an unambiguous instruction to solve a problem	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
- (b)** Handling contradictory data
- (c)** Handling uncertain data
- (d)** Handling heuristics
- (e)** Ability to learn

**(4)** Describe the following :

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

**(b) 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.

**(c) Cortana :** Microsoft released Cortana in 2014, their version of a virtual assistant similar to Siri on iOS.

**(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.

**(6)** Artificial Intelligence is impacting the future of virtually every industry and every human being. Justify.

**Ans. :** Artificial Intelligence has acted as the main driver of emerging technologies like big data, robotics and IoT, and it will continue to act as a technological innovator for the foreseeable future.

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