



# B.K. BIRLA CENTRE FOR EDUCATION

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

## ANNUAL EXAMINATION: 2025-26 ARTIFICIAL INTELLIGENCE (417)

Class: IX / SET-01

Date: 14-02-2026

Admission No. : .....

Time : 2 Hrs.

Max Marks: 50

Roll No. :

### **General Instructions:**

1. Please read the instructions carefully.
2. This Question Paper consists of 21 questions in two sections : Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. Out of the given (5 + 16 =) 21 questions, a candidate has to answer (5 + 10 =) 15 questions in the allotted (maximum) time of 2 hours.
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):**
  - i. This section has 05 question.
  - ii. Marks allotted are mentioned against question/part.
  - iii. There is no negative marking.
  - iv. Do as per the instructions given.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
  - i. This section has 16 questions.
  - ii. A candidate has to do 10 questions.
  - iii. Do as per the instructions given.
  - iv. Marks allotted are mentioned against each question/part.

## **MARKING SCHEME**

### **SECTION A: OBJECTIVE TYPE QUESTIONS**

Q.(1) Answer any 4 out of the given 6 questions on Employability Skills.

(4 x 1 = 4)

- i. Who initiates the process of communication?
  - a. Feedback
  - b. Sender\*
  - c. Receiver
  - d. Communication Channel
- ii. Grooming is a term associated with \_\_\_\_\_.
  - a. Time management
  - b. Problem solving
  - c. Neat and clean appearance \*
  - d. Self-management
- iii. Which of the following is not true for the use of ICT in education?
  - a. Smartboard
  - b. Smart pen
  - c. Driverless car \*
  - d. Virtual classrooms.
- iv. What does GPS stand for?
  - a. Global Positioning System \*
  - b. Global Payment System
  - c. Global Program System
  - d. Global Pointing System
- v. What is the output of the innovative process of setting up a business called?

- a. Project                      b. Business                      c. Enterprise \*                      d. Work
- vi. The term “Green Economy” was first coined by :
- a. India                      b. UK \*                      c. America                      d. China

**Q.(2) Answer any 5 out of the given 6 questions.**

**(5 x 1 = 5)**

- i. Which of the following is not a domain of AI?
- a. Data Statistics                      b. Computer Vision
- c. Natural Language Processing                      d. Information \*
- ii. Which type of data can be used as input in the Computer Vision domain of AI?
- a. Numeric                      b. Symbols
- c. Image and Video \*                      d. All of these
- iii. Which of the following is an application in which the NLP domain is used?
- a. Google Assistant                      b. Alexa                      c. Siri                      d. All of these \*
- iv. Which of the following is not a type of AI?
- a. Artificial Narrow Intelligence                      b. Artificial General Intelligence
- c. Artificial Super Intelligence                      d. Artificial Fastest Intelligence \*
- v. Which of the following is not an example of data?
- a. Audio                      b. Video
- c. Text                      d. Hardware \*
- vi. The \_\_\_\_\_ illustrates the progressive transformation of raw data into actionable wisdom.
- a. Data                      b. Data literacy
- c. Data pyramid \*                      d. Information

**Q.(3) Answer any 5 out of the given 6 questions.**

**(5 x 1 = 5)**

- i. \_\_\_\_\_ is about hunting for valuable information in different places, checking if it's good quality, and making sense.
- a. Data discovery                      b. Data investigation
- c. Data quality                      d. Data literacy \*
- ii. \_\_\_\_\_ can recognise objects, people, and even actions happening in videos.
- a. NLP                      b. Data science
- c. Data                      d. Computer vision \*
- iii. \_\_\_\_\_ should be organised in a way that makes sense so that it can be used effectively.
- a. Data \*                      b. Knowledge                      c. Privacy                      d. Ethics
- iv. \_\_\_\_\_ should not have duplicates, missing values, outliers, and other anomalies so that its reliability and usefulness for analysis is not affected.
- a. Text data                      b. Clean data \*
- c. Visual data                      d. Ethical
- v. \_\_\_\_\_ are repeating designs or sequences that can be observed in numbers, shapes, images, languages, or objects in our surroundings.
- a. Patterns \*                      b. Iterations                      c. Sequences                      d. Statistics
- vi. Which of the following statements is not true?
- a. Mathematics helps in the study of patterns.
- b. With the use of mathematics, you can solve puzzles.
- c. Mathematics helps to identify an order/ arrangement in the list of images or numbers.
- d. The patterns only exist in mathematics. \*

**Q.(4) Answer any 5 out of the given 6 questions.**

**(5 x 1 = 5)**

- i. \_\_\_\_\_ measures the amount of certainty of an event.
- a. Probability \*                      b. Calculus                      c. Series                      d. Pattern
- ii. \_\_\_\_\_ also helps in concluding data.

- a. Statistics\*      b. Information      c. Probability      d. Sequence
- iii. If you toss a coin, the chance of getting a head or tail is an example of \_\_\_\_\_.
- a. equal probability \*      b. unlikely events  
c. Impossible events      d. certain events
- iv. \_\_\_\_\_ are captured by cameras, they are visual representations depicting scenes, objects, or people in exactly the same way as they exist in the real world.
- a. Real images \*      b. AI-generated images  
c. Imaginative images      d. Drawings
- v. \_\_\_\_\_ generated images can add modifications, enhancements, and even entirely new imaginative details.
- a. Computer      b. AI \*      c. Algorithm      d. Real
- vi. In Generative Modelling, the model can generate structured data from the dataset.
- a. random noise \*      b. labelled      c. unlabelled      d. temporary

**Q.(5) Answer any 5 out of the given 6 questions.**

**(5 x 1 = 5)**

- i. \_\_\_\_\_ can be used to generate large volumes of content quickly and efficiently.
- a. Supervised learning      b. Unsupervised  
c. Generative AI \*      d. Deepfake
- ii. Name the type of generative AI used for artistic image creation based on learned features from famous paintings.
- a. AEs      b. GANS \*      c. VAES      d. RNNs
- iii. Which of the following is the step-by-step approach in simple English-like statements?
- a. Algorithm \*      b. Selection  
c. Flowchart      d. Sequence
- iv. Which of the following is a valid logical operator?
- a. and \*      b. !=      c. +      d. >=
- v. ZeroDivisionError error is a \_\_\_\_\_
- a. Syntax Error      b. Logical Error  
c. Runtime Error \*      d. Not an Error
- vi. Which of the following symbols is used to display the decision-making statements in a flowchart?
- a. Rectangle      b. Line      c. Diamond \*      d. Oval

## **SECTION B: SUBJECTIVE TYPE QUESTIONS**

**Answer any 3 out of the given 5 questions on Employability Skills.**

**(3 x 2 = 6)**

**Answer each question in 20-30 words.**

Q6. What is oral communication?

**Answer:** Oral communication is communication using spoken words in an interactive way to share ideas or information. It can be a direct face-to-face conversation or a telephonic conversation.

Q7. What is Self control?

**Answer:** It is the ability to manage your impulse, emotions and behaviour. Know yourself so you can manage your emotions and impulses. It acts as a force to have a more successful and satisfying life.

Q8. Give the full form of the following: a. ALU b. CPU c. ICT d. IP

**Answer: Arithmetic logic unit, Central Processing unit, Information communication technology, Internet Protocol**

Q9. What do you mean by “feedback in the long run”?

**Answer:** Feedback in the long run: It is important to take feedback from the customers in the long run. You can use the feedback to improve your product and reach out to a larger group for future expansion of the business.

Q10. What is Global Warming?

**Answer:** Global warming refers to the increase in the average temperature of the Earth’s atmosphere mainly due to greenhouse gases (carbon dioxide, CFC’s) produced by a lot of human activities.

**Answer any 4 out of the given 6 questions in 20-30 words each.**

**(4 x 2 = 8)**

Q11. What is the main goal of creating a confusion matrix?

**Answer:** To assess the performance of a classification model by displaying the number of true positive, true negative, false positive, and false negative predictions.

Q12. How can Pie chart be useful in data presentation?

**Answer:** Pie charts visually represent the proportions of different categories within a dataset, making it easier to compare and understand the relative sizes of each category.

Q13. Define the term Data backup.

**Answer:** Data backup refers to the process of creating copies of data to ensure that it can be restored in the event of data loss due to natural disasters, accidents, cyber-attacks, or other unexpected events. Sometimes physical backup media is used to secure in access-controlled environments. Another method to secure data can be the cloud backup which is considered more reliable.

Q14. Give any two applications of statistics in real life.

**Answer:** Two applications of statistics in real life are:

- Analyzing consumer behavior in marketing to improve product sales.
- Assessing the effectiveness of medical treatments in healthcare.

Q15. Generative AI model need large training data. Elaborate.

**Answer:** Generative AI models require large datasets to capture the variability and complexity of the data distribution they aim to model. The quality and diversity of the generated outputs depend on the richness of the

training data. Insufficient data can lead to overfitting and poor generalization, resulting in less realistic or diverse generated content.

Q16. Why while loop called entry-controlled loop?

**Answer:** A while loop is called an entry-controlled loop because the condition is checked before the loop body is executed.

**Answer any 3 out of the given 5 questions in 40-50 words each.**

**(3 x 4 = 12)**

Q17. Explain any four disadvantage of AI.

**Answer:**

- **Expensive Technology:** As AI is advancing day by day, the hardware and software need to get updated with time to meet the latest requirements. Setting up AI-based systems requires high costs because of the complexity of the engineering that goes behind its making. AI Reflection, Project Cycle and Ethics 187
- **Leads to Unemployment:** With the rapid development of AI, the fear of unemployment is constant. Jobs in manufacturing, agriculture, food service, retail, transportation, logistics, and hospitality are some of the industries likely to be affected. The majority of the repetitive tasks would be taken over by AI.
- **Lacks Emotions and Creativity:** AI machine lacks human emotions and creativity. AIs can become skilled machines but they can never acquire the abilities of humans. The creativity of AI is only limited to the ability of humans that created them.
- **Does Not Improve with Experience:** Humans learn from experiences, whereas it's not possible with machines. AIs cannot alter their responses based on the changing environment. They are programmed to behave in a specific manner, so they cannot make decisions in case they encounter an unprogrammed situation. If a change is required, they need to be re-programmed.
- **Discouraging Human Creativity:** Apps like ChatGpt and others can be used with ease to do anything and everything

Q18. Differentiate between continuous and discrete data.

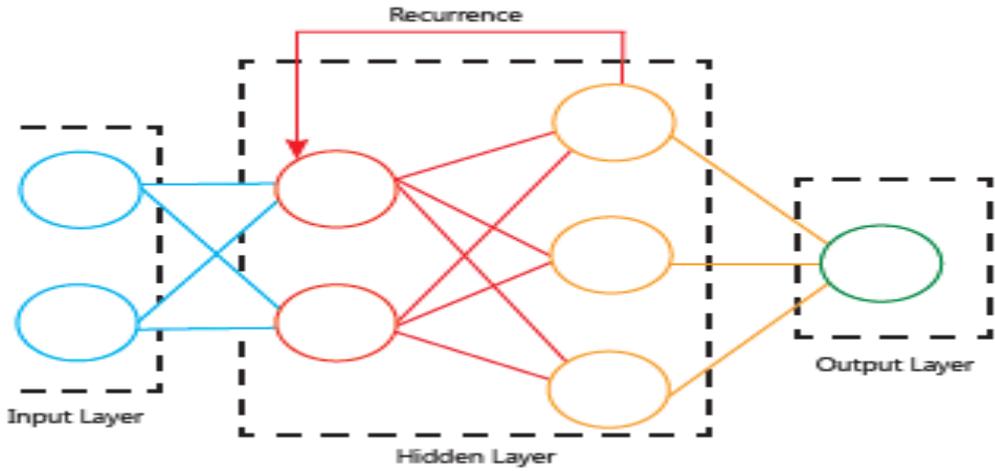
**Answer:**

<b>Continuous Data</b>	<b>Discrete Data</b>
Continuous data can take any numeric value within a specified range.	Discrete data refers to distinct single values. It consists of whole numbers without decimal parts that represent distinct categories or values.
Continuous data is measurable.	Discrete data is countable.
This type of data can be infinitely subdivided and often includes decimal points.	Discrete data cannot be subdivided meaningfully.
Often used to analyse using statistical techniques such as mean, median, standard deviation, and correlation.	It is used to analyse using frequency distributions, bar charts, and probability distributions.

Examples: dimensions of classroom, height, weight, temperature, time, etc.	Examples: number of girls and boys in class, number of subjects in class 9th, count of anything.
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Q19. a. Draw a diagram to represent Recurrent Neural Network.  
 b. What is Autoencoders?

**Answer:**



Autoencoders (AEs) are neural networks that learn to compress data into a latent space and then reconstruct it. They are used for tasks like dimensionality reduction and feature learning.

Q20. Differentiate between for loop and while loop with example.

**Answer:**

**The for Loop** The for loop is used to repeat a set of instructions for a fixed number of times. This means the number of iterations are known/definite before we start the execution of the loop. Therefore, the for loop is also known as definite loop. Indentation of statements is must to specify the block of statements to be repeated using the for loop.

There are commonly two different ways of using the for loop:

- Using Sequence: In this type of for loop, a sequence of values is used over which the loop iterate. The syntax to use the for loop with a sequence is:  
`for <counter variable> in <sequence> :`

Statements

The while loop is used to repeat a set of instructions as long as the condition is true. It means when the number of iterations are not fixed/indefinite before we start with the execution of a loop. Therefore, it is known as an indefinite loop. Indentation of statements is required to specify the block of statements to be repeated using a while loop. This loop is also called an entry-controlled loop as it checks for the condition in the beginning. If the condition is 'True' then the body of the loop will be executed. If the condition is 'False' then it will not be allowed to enter within the loop and it stops. The syntax of the while loop is:

`while <condition>`

Statements

Q21. Write a python program:

Input three angle and check whether they form a triangle or not.

**Answer:**

```
a = int(input("Enter first angle: "))
b = int(input("Enter second angle: "))
c = int(input("Enter third angle: "))
if a + b + c == 180:
    print("The angles form a triangle.")
else:
    print("The angles do not form a triangle.")
```

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