B.K. BIRLA CENTRE FOR EDUCATION

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

ANNUAL EXAMINATION: 2025-26 SET-02
ARTIFICIAL INTELLIGENCE (417)

Class: IX   **Time : 2 Hrs.**
Date: 14-02-2026   **Max Marks: 50**
Admission No. : …..……………   **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. In the process of communication, who is responsible for starting the message?
a. The response   b. The person who sends the message *
c. The person who receives the message   d. The medium used for communication

ii. The term *grooming* mainly refers to:
a. Managing time effectively   b. Solving daily problems
c. Maintaining a neat and presentable look*   d. Controlling one's behaviour

iii. Which of the following is NOT an application of ICT in the field of education?
a. Interactive digital boards   b. Digital writing pens
c. Self-driving vehicles *   d. Online learning classrooms

iv. The full form of GPS is:
a. Global Positioning System *   b. Global Payment Service
c. Global Programming System   d. Global Pointing Service

v. What do we call the result of an innovative effort to start a business venture?
a. Assignment   b. Company   c. Enterprise *   d. Task
vi. The concept of the "Green Economy" was first introduced by which country?
a. India   b. United Kingdom *   c. United States of America   d. China

Q.(2) Answer any 5 out of the given 6 questions.   **(5 x 1 = 5)**

i. Autonomous Weapons are also known as .....
a. Killer Robots   b. Automatic Robots
c. Micro Robot   d. All of these
ii. A web-based software that is used to create interactive stories in Choose Your Own Adventure (CYOA) format is ..
a. Chatbot   b. Jupyter notebook
c. Internet explorer   d. Inklewriter
iii. Which of the following is not an advantage of Al?
a. Increased automation   b. Increased productivity
c. Smart decision-making   d. Expensive technology
iv. An application lets you search what you see, get things done faster and understand the world around you, using just your camera or a photo. Which domain does this app belong to?
a. Natural Language Processing   b. Data Sciences
c. Computer Vision   d. Artificial Language Processing
v. Data literacy is able to cultivate _____skills to understand and explore data's implications by questioning assumptions.
a. critical thinking   b. programming
c. awareness   d. probability
vi. Data literacy fuels___by providing tools and techniques to explore data from different perspectives.
a. Errors   b. comprehension
c. innovation   d. repetition

Q.(3) Answer any 5 out of the given 6 questions.   **(5 x 1 = 5)**

i. _____enables users to tackle complex problems and derive meaningful relevance.
a. Mathematics   b. Trends   c. Project cycle   d. Data literacy
ii. Data literacy has an impact on which of the following?
a. Public policy   b. Cooking   c. Driving   d. Jogging
iii. By implementing a _____learning approach, organisations can provide a set of diverse resources that align with individual learning styles.
a. Modern   b. Prescriptive   c. planned   d. latest
iv. The process of collecting data from websites using software is called_____
a. Data analysis   b. Data reference
c. Data literacy   d. Data scraping
v._____are used in concepts like expert systems, database systems and knowledge graphs.
a. Math   b. Logic and set theory
c. Graph theory   d. Calculus
vi. In an_____ event, there's no chance of an event happening.
a. Unlikely   b. certain
c. impossible   d. likely

Q.(4) Answer any 5 out of the given 6 questions.   **(5 x 1 = 5)**

i. If an event will never happen or is impossible, it will have a probability of_____.

a. 1   b. 0   c. >1   d. <1

ii. With one throw of a 6-sided die, what's the probability of getting an even number?

a. 1/5   b. 5/6   c. 2/5   d. 1/2

iii. Time consistently moves forward, and each passing moment is_____.

a. Uncertain   b. Likely   c. certain   d. unlikely

iv. Based on the_____data in discriminative modelling, the model is able to identify individual datasets.

a. Unlabelled   b. New   c. labelled   d. Named

v._____are unpredictable fluctuations and disarranged data which makes it impossible to identify target patterns or relationships in it.

a. Deepfake   b. Random Noise Dataset

c. Gen AI   d. Discriminative Modelling

vi. Which of the following is not a generative Al tool?

a. Galileo   b. CodeGPT   c. Magic Al   d. Vista Al

Q.(5) Answer any 5 out of the given 6 questions.   **(5 x 1 = 5)**

i. _____are neural networks that work to produce fresh data.

a. Deepfake   b. Gen AI   c. GANS   d. VAE

ii. What is a primary advantage of using Autoencoders?

a. Generating realistic videos

b. Creating noise-free images

c. Handling sequential data

d. Generating new text

iii. Which of the following is not the conditional statement in Python?

a. if Statement   b. if...elif...else Statement

c. if...else Statement   d. for Statement

iv. Which of the following is a looping statement in Python?

a. for statement   b. while statement   c. Both a and b   d. None of these

v. Which of the following statements allows to repeat a task for a fixed number of times?

a. for statement   b. if...else statement

c. while statement   d. continue statement

vi. Which of the following can be a part of a list?

a. String values   b. Integer values

c. List   d. All of these

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 encoding in communication?

Answer:

Q7. What are organizational skills?

Answer:

Q8. What is Input-process-output cycle?

Answer:

Q9. Who is an Entrepreneur?

Answer:

Q10. Name the 5Rs of Green skills.

Answer:

Answer any 4 out of the given 6 questions in 20-30 words each. **(4 x 2 = 8)**

Q11. What is 4Ws Problem canvas?

Answer:

Q12. What is Data Security?

Answer:

Q13. Define the term Data Encryption.

Answer:

Q14. What are patterns? Explain with examples.
Answer:

Q15. Write the four names of Generative AI tools .

Answer:

Q16. What is run time error in python?

Answer:

Answer any 3 out of the given 5 questions in 40-50 words each. **(3 x 4 = 12)**

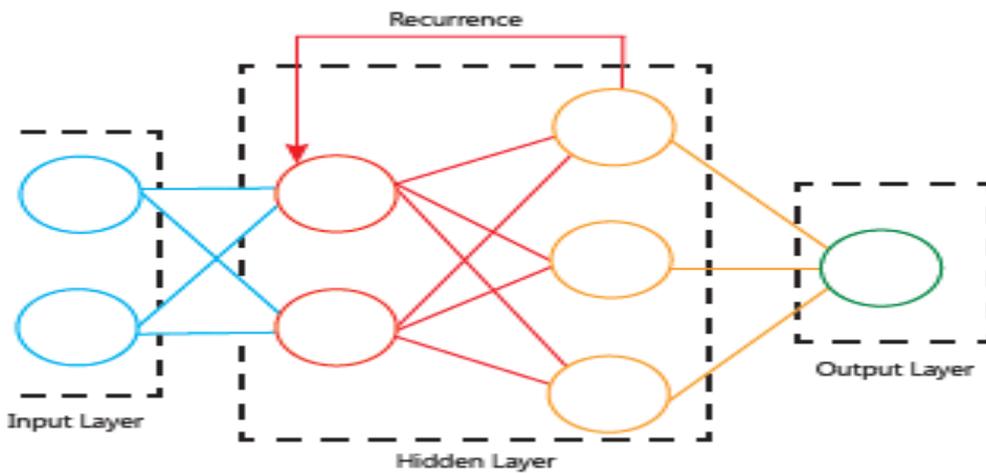Q17. Explain any four principles of AI Ethics?
Answer:

Q18. Differentiate between Qualitative and Quantitative data.

Answer:

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 length and breadth and display whether it is a square or not.

Answer:

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