B.K. BIRLA CENTRE FOR EDUCATION

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

MID-APRIL TEST 2025-26
ARTIFICIAL INTELLIGENCE (417)

Class: X   **Time : 1 hr. 30 mins**

Date: 19-04-2025   **Max Marks: 25**

Admission No. ……………………   **Roll No. :**

General Instructions:
1. *Please read the instructions carefully.*
2. *This Question Paper contain two sections: Section A & Section B.*
3. *Section A has Objective type questions 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 (07 MARKS):***
    - i. *This section has 01 question.*
    - ii. *Marks allotted are mentioned against question/part.*
    - iii. *There is no negative marking.*
    - iv. *Do as per the instructions given.*
6. ***SECTION B – SUBJECTIVE TYPE QUESTIONS (18 MARKS):***
    - i. *This section has 12 questions.*
    - ii. *A candidate has to do 8 questions.*
    - iii. *Do as per the instructions given.*
    - iv. *Marks allotted are mentioned against each question/part.*

SECTION A: OBJECTIVE TYPE QUESTIONS

Q.(1) Answer any 7 out of the given 10 questions :   **(7 x 1 = 7)**

(i) What is the primary purpose of AI project cycle ?
    (a) To provide a set of random steps for AI development
    (b) To systematically plan, develop and deploy AI solutions
    (c) To focus only on the final implementation of AI systems
    (d) To perform data analysis without a structured plan

(ii) What is the main goal of the data acquisition stage in AI project ?
    (a) To collect raw data for analysis and reference
    (b) To visualise data using statistical methods
    (c) To test the AI model
    (d) To deploy the model into production

(iii) Which of the following is NOT a real-time application of NLP ?
    (a) Image recognition   (b) Chatbots
    (c) Plagiarism checker   (d) Sentiment analysis

(iv) Which ethical framework emphasises good character traits such as kindness and compassion?
    (a) Value based ethical framework   (b) Virtue based ethical framework
    (c) Right based ethical framework   (d) Utility based ethical framework

(v) Which W in 4W canvas explores the reason behind solving the problem ?
    (a) What   (b) Why   (c) Where   (d) Who

(vi) Machine Learning focuses on …………
    (a) Building Circuits   (b) Learning from data
    (c) Simulating Emotions   (d) Physical Robots

(vii) Which of these is an application of Machine Learning ?
    (a) Building databases   (b) Writing programming code
    (c) Manual data processing   (d) Recommendation systems

(viii) Which of the following is labelled data ?
    (a) Unmarked data   (b) Marked or tagged data
    (c) Raw data   (d) Unusable data

(ix) Which Machine Learning techniques is best for grouping customers based on their shopping behaviours ?
    (a) Regression   (b) Classification
    (c) Association   (d) Clustering

(x) An AI agent playing a game and learning from its rewards and penalties is an example of :
    (a) Supervised Learning   (b) Unsupervised Learning
    (c) Reinforcement Learning   (d) Evolutionary Learning

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 6 out of the given 8 questions: **(6 x 2 = 12)**

Q. (2) What is the AI project cycle ? Name all and explain any two.

Q. (3) "Google Lens is an application of Google that can be used to identify any image by clicking a picture from the real world." Explain this statement.

Q. (4) How is the application of computer vision in agricultural monitoring ? Explain.

Q. (5) What is Natural Language Processing ? Explain any two real life applications of NLP.

Q. (6) Define modelling. Write two examples of Machine Learning.

Q. (7) What do you mean by a testing data set and training data set ? Explain.

Q. (8) Differentiate between labelled and unlabelled dataset.

Q. (9) Explain supervised and unsupervised learning approach with an example.

Answer any 2 out of the given 4 questions :   **(2 x 3 = 6)**

Q.(10) What is the need of ethical frameworks for AI ? Explain any three points.

Q.(11) Samarth attended a workshop on Artificial Intelligence but found the technical jargon challenging. He understood that AI is used in various everyday applications, but struggled to identify its core areas. Can you help Samarth list the three main domains of AI and explain with examples ?

Q.(12) Differentiate between Machine Learning and Deep Learning.

Q.(13) How does Neural Network work ? Explain.

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