



B.K. BIRLA CENTRE FOR EDUCATION

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

PERIODIC TEST-I : 2025-26 ARTIFICIAL INTELLIGENCE (417)

Class: X

Date: 01-07-2025

Admission No. :

Time : 1 hr.

Max Marks: 25

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 14 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) Which of the following is not a typical stage in the AI Project Cycle ?
 - (a) Modelling
 - (b) Data Exploration
 - (c) Deployment
 - (d) Data generation
- (ii) How does Google Translate utilise NLP ?
 - (a) By analysing sentence structure and context to translate text
 - (b) By categorising languages into specific types
 - (c) By predicting the next word in a sentence
 - (d) By checking for grammatical errors in documents
- (iii) What is the purpose of defining the problem statement during the Problem Scoping stage in an AI Project Cycle ?
 - (a) To collect data
 - (b) To understand the aim and objective of the project
 - (c) To train the model
 - (d) To process data
- (iv) Which ethical framework is based on respecting and upholding individual rights ?
 - (a) Right based ethical framework
 - (b) Utility based ethical framework
 - (c) Sector based ethical framework
 - (d) Virtue based ethical framework
- (v) Which algorithm is primarily used in image related tasks like facial recognition ?
 - (a) Regression
 - (b) ANN
 - (c) CNN
 - (d) Classification

- (vi) Artificial Neural Networks are inspired by the structure and function of :
- (a) The human brain
 - (b) Quantum computers
 - (c) Complex mathematical models
 - (d) High speed processors
- (vii) Which of these is an example of a classification problem ?
- (a) Predicting house prices
 - (b) Grouping customers based on spending
 - (c) Determining if an email is spam
 - (d) Predicting the temperature
- (viii) Which of the following is an example of reinforcement learning ?
- (a) Identifying spam emails
 - (b) Predicting house prices
 - (c) A robot learning to pick objects through trial and error
 - (d) Grouping customers based on purchase history
- (ix) The of meaningful information is conveyed back to the sender to complete the communication cycle.
- (a) Sender
 - (b) Receiver
 - (c) Feedback
 - (d) Message
- (x) Which of the following is an interpersonal barrier ?
- (a) Social anxiety
 - (b) Poor self esteem
 - (c) Not willing to talk
 - (d) All of these

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 6 out of the given 10 questions:

(6 x 2 = 12)

- Q. (2)** What do you mean by Bioethics ? Explain.
- Q. (3)** What is the need of ethical frameworks for AI ? Explain any two points.
- Q. (4)** Explain any two applications of Statistical Data.
- Q. (5)** The Face Lock feature in smartphones is an application of Artificial Intelligence. Explain how this feature works and identify the AI domain it belongs to.
- Q. (6)** How does Video Game AI demonstrate Reinforcement Learning ?
- Q. (7)** Explain any four applications of machine learning in our daily lives.
- Q. (8)** Differentiate between labelled and unlabelled dataset.
- Q. (9)** What is Rule based approach ? Write any one drawback of it.
- Q. (10)** Explain any two of 7C's of effective communication.
- Q. (11)** What is communication ? Explain different methods of communication.

Answer any 2 out of the given 4 questions :

(2 x 3 = 6)

- Q.(12)** What is Natural Language Processing ? Explain any two real life applications of NLP.
- Q.(13)** Akhil wants to learn how to scope the problem for an AI Project. Explain him the following :
- (a) 4W Problem canvas
 - (b) Problem Statement Template
- Q.(14)** Explain the three basic layers of Artificial Neural Network.
- Q.(15)** Explain any three examples of Regression Model.

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