B.K. BIRLA CENTRE FOR EDUCATION

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

TERM-1 EXAMINATION (2025-26)
ARTIFICIAL INTELLIGENCE (843)

Class : XI SCIENCE/COMMERCE/ARTS   **Duration : 2 Hrs**
Date   : 03-09-2025   **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
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 questions.

   ii. Marks allotted are mentioned against each 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.

SECTION A: OBJECTIVE TYPE QUESTIONS

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

i.   Which of the following method is used to receive information from the sender?   1
      a) Listening   b) Speaking   c) Telling   d) Writing

ii.   Which of these is a sign of good listening skill?   1
      a) Staring hard   b) Nodding while listening   c) Passive-aggressive   d) Aggressive

iii. Business idea can be a product, service or _____.   1
      a) Dynamic model   b) Eco model
      c) Hybrid model   d) All of these

iv.   _____is an exercise entrepreneurs do to understand if there is a market for what they have   1
      offer.
      a) Competition survey   b) Population survey
      c) Both a and b   d) Surveying customers

v.   The green economy is a macroeconomic approach that emphasises _____.   1
      a) Investments   b) Job creation   c) Skill development   d) All of these

v. Which among the following is essential for rainfall and the protection of our land resources?   1
a) Water   b) Waste management   c) Tribes   d) Forests

vi. Which domain of AI allows a computer to understand, interpret, and generate human language?   1
a) Computer Vision   b) Natural Language Processing
c) Expert Systems   d) Data Mining

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

i. Data Science is mainly concerned with: 1
a) Building robots   b) Analyzing and interpreting large volumes of data
c) Designing operating systems   d) Computer networking

ii. Which type of Machine Learning uses labelled data to train the model?   1
a) Supervised Learning   b) Unsupervised Learning
c) Reinforcement Learning   d) Deep Learning

ii. Reinforcement Learning works by: 1
a) Giving the model labelled data to learn
b) Providing no feedback to the model
c) Using rewards and penalties to guide learning
d) Randomly adjusting the model without data

iv. In which domain would self-driving cars mainly fall?   1
a) Computer Vision and Robotics   b) NLP and Data Science
c) Expert Systems only   d) Cloud Computing

v. A drawback of AI is that it can: 1
a) Be biased if trained on biased data   b) Work without breaks
c) Process data quickly   d) Automate routine work

vi.. Which of the following is true for Deep Learning?   1
a) It performs better with very small datasets
b) It is a subset of Machine Learning
c) It is unrelated to neural networks
d) It does not require GPUs for large models

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

i. A major ethical issue in AI is: 1
a) Data bias and discrimination   b) High processing speed
c) Automation of tasks   d) Availability of big data

ii. What is one of the main benefit of pursuing a career in AI?   1
a) Limited job roles   b) High demand in multiple industries
c) Requires no technical skills   d) Low income potential

iii. Which of the following is NOT a common job role in AI?   1
a) AI Engineer   b) Human Resource   c) Data Analysts   d) Machine learning Engineer

iv. Which industry is NOT actively seeking AI integration?   1
a) Finance services   b) Health care   c) Craft and Artisanal   d) Agriculture

v. Which of the following is a primary responsibility of a Machine Learning Engineer?   1
a) Designing hardware component   b) Building AI System and algorithm
c) Managing IT Infra   d) Writing user interface code

vi. What is the Primary focus of AI Ethicists? 1
a) Building AI models   b) Designing robotics systems
c) Ensuring ethical use of AI technologies   d) Analysing big data

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

i. Which programming language is commonly used for AI development? 1
a) HTML   b) CSS   c) Python   d) PHP

ii. Which soft skill is crucial for efficiently organising and prioritising tasks to maximise 1
productivity and meet deadlines?
a) Linear Algebra   b) Time Management
c) Deep Learning   d) Shell scripting

iii. What of the following is used for building advanced AI application and is open-source? 1
a) Java   b) TensorFlow   c) Tableau   d) Power BI

iv. Which of these is a valid Python variable name? 1
a) 2value   b) my _count   c) my-variable   d) for

v. In Python, interactive mode is used for: 1
a) Writing multiple programs at once   b) Testing code line-by-line in the Python
shell
c) Creating .exe applications   d) Debugging only

vi. Which of the following is **not** a Python data type? 1
a) int   b) float   c) real   d) str

Q. 5   **Answer all the given questions (1 x 5 = 5 marks)**

i. Which list operation removes the last element? 1
a) remove()   b) pop()   c) del list[0]   d) clear()

ii. Which method returns all keys in a dictionary? 1
a) keys()   b) values()   c) items()   d) get()

iii. What will len([10, 20, 30, 40]) return? 1
a) 3   b) 4   c) 5   d) Error

iv. Which method is used to **add an element** at the end of a list? 1
a) append()   b) insert()   c) extend()   d) add()

v. What will be the output of: print(3 > 2 and 2 > 5) 1
a) True   b) False   c) 3 > 2 > 5   d) Error

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 3 out of the given 5 questions on Employability Skills (2 x 3 = 6 marks)
Answer each question in 20 – 30 words

Q. 6   What is Goal Setting? 2

Q. 7   What is Team Work? 2

Q. 8   Write any two advantage of word processor software. 2

Q. 9   Define text formatting. 2

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

Q. 10   What is Natural Language Processing? 2

Q. 11   Differentiate between data and information. 2

Q. 12	What are the responsibilities of a Data Scientists in the AI field?	2
Q. 13	What do you understand by operator precedence?	2
Q. 14	Differentiate between comparison and logical operator.	2
Q. 15	Write any two naming conversations for identifiers in python?	2

<div align="center">

SECTION – C

Answer any 4 out of the given 6 questions in 50– 80 words each (3 x 4 = 12 marks)

</div>

Q. 16	Differentiate between Artificial Intelligence, Machine Learning and Deep Learning.	3
Q. 17	Describe any three applications of AI.	3
Q. 18	Explain any three traits required for an AI Professional.	3
Q. 19	Explain: a. Imputation b. Dropping c. Interpolation	3
Q. 20	Write a program to demonstrate the use of the if-elif-else statement.	3
Q. 21	Write a program to create a Data Frame using Dictionary of lists.	3

<div align="center">

*** ALL THE BEST ! ***

</div>