



B.K. BIRLA CENTRE FOR EDUCATION

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



TERM-1 EXAMINATION (2026-27)- SET 01
ARTIFICIAL INTELLIGENCE (843)

Class : XII A/B/C

Date : 04-09-2026

Admission No.:

Duration : 3 Hrs.

Max. Marks : 50

Roll No.:

General Instructions:

- (i) Please read the instructions carefully.
- (ii) This question paper consists of 21 questions in two Sections: Section – A & Section – B.
- (iii) Section – A has Objective type questions whereas Section – B contains Subjective type questions.
- (iv) Out of the given $(5 + 16) = 21$ questions, a candidate has to answer $(5 + 11) = 16$ questions in the allotted (maximum) time of 3 hours.
- (v) All questions of a particular section must be attempted in the correct order.

(vi) Section – A: Objective Type Questions (24 marks)

- (a) This section has 4 questions.
- (b) There is no negative marking.
- (c) Do as per the instructions given.
- (d) Marks allotted are mentioned against each question/part.

(vii) Section – B: Subjective Type Questions (26 marks)

- (a) This section has 16 questions.
- (b) A candidate has to do 11 questions.
- (c) Do as per the instructions given.
- (d) 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. What does P in RESPECT for active listening stands for? 1
 - (a) Patience
 - (b) Pay Attention
 - (c) Positive Attitude
 - (d) Participation
- ii. Which among the following involves listening, speaking, writing, or transferring information in any other form to understand others? 1
 - (a) Communication
 - (b) Concentration
 - (c) Talking
 - (d) Emailing
- iii. Which of the following is **not** a basic personality trait or characteristic? 1
 - (a) Neuroticism
 - (b) Openness
 - (c) Agreeableness
 - (d) Obsessive-Compulsive Personality
- iv. _____ is a collection of numerous rows and columns. 1

- (a) Worksheet (b) Slide (c) Workbook (d) Slide Bar
- v. _____ means not giving up and continuing to move forward even when a challenging situation arises while running a business. 1
(a) Motivation (b) Self-awareness (c) Perseverance (d) Determination
- vi. How do green jobs impact employment? 1
(a) Reduce job opportunities (b) Create long-term jobs
(c) Replace all manual labour (d) Eliminate industries
- Q 2. Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**
- i. Which statement is used to import Pandas? 1
(a) import pandas as pd (b) import pandas as p
(c) Both (a) and (b) (d) include pandas
- ii. Which of the following is used to access a range of elements from an array? 1
(a) Indexing (b) Slicing (c) Looping (d) Sorting
- iii. Which library is mainly used for numerical computations in Python? 1
(a) Pandas (b) NumPy (c) Matplotlib (d) Tkinter
- iv. What will a[1:4] return for the array [10, 20, 30, 40, 50]? 1
(a) [10, 20, 30] (b) [20, 30, 40] (c) [20, 30, 40, 50] (d) [10, 20, 30, 40]
- v. Who introduced the Data Science Methodology, also known as the Foundational Methodology for Data Science? 1
(a) Andrew Ng (b) John Rollins
(c) Geoffrey Hinton (d) Yann LeCun
- vi. In which module is data collection emphasised? 1
(a) From Problem to Approach (b) From Understanding to Preparation
(c) From Requirements to Collection (d) From Modelling to Evaluation
- Q 3. Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**
- i. Which Data Analytics method is used to predict future outcomes based on historical data? 1
(a) Descriptive Analytics (b) Diagnostic Analytics
(c) Predictive Analytics (d) Prescriptive Analytics
- ii. Which of the following techniques is used in Predictive Analytics? 1
(a) Root Cause Analysis (b) Hypothesis Testing
(c) Regression (d) Mean, Median, and Mode
- iii. Which of the following is an example of a secondary data source? 1
(a) Focus Groups (b) Experiments and Observations
(c) Books, Journals, and Research Papers (d) Oral Histories
- iv. How many steps are included in the Data Science Methodology? 1
(a) 5 (b) 8 (c) 10 (d) 12
- v. The process of partitioning an image into meaningful regions by grouping pixels with similar characteristics is called _____. 1
(a) Image Acquisition (b) Image Segmentation
(c) Image Classification (d) Image Enhancement
- vi. CMOS stands for: 1
(a) Complementary Metal-Oxide Semiconductor
(b) Computer Metal-Oxide Semiconductor
(c) Complementary Machine Operating System
(d) Computer Memory Operating System
- Q 4. Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**
- i. How does feature extraction contribute to Computer Vision? 1
(a) It eliminates all irrelevant images from the dataset
(b) It identifies and isolates important visual patterns or details for recognition
(c) It converts all images to black and white
(d) It speeds up image acquisition
- ii. Which real-world scenario best demonstrates image segmentation? 1

- (a) Identifying different fruits in a grocery store image
 (b) Translating text in a foreign language
 (c) Predicting stock market trends
 (d) Filtering spam emails
- iii. Which is an ethical concern related to Computer Vision? 1
 (a) High electricity consumption
 (b) Unauthorised data collection and misuse of PII
 (c) The inability to process real-time data
 (d) The need for expensive hardware
- iv. What does R-CNN stand for? 1
 (a) Recurrent Convolutional Neural Network
 (b) Region-Based Convolutional Neural Network
 (c) Regularized Convolutional Neural Network
 (d) Refined Convolutional Neural Network
- v. Which of the following utilizes hyperplanes to separate objects into distinct classes? 1
 (a) K-Nearest Neighbors (b) Support Vector Machines
 (c) Convolutional Neural Networks (d) K-Means Clustering
- vi. Which preprocessing technique enhances image contrast? 1
 (a) Noise reduction (b) Histogram equalization
 (c) Feature extraction (d) Image segmentation
- Q 5. Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**
- i. What strategy do supermarkets use to manage stock during festive seasons? 1
 (a) They reduce product variety to focus on essentials
 (b) They rely on customer feedback after sales
 (c) They analyse past shopping trends and track real-time sales data
 (d) They guess customer preferences based on previous advertisements
- ii. Which of the following is an example of Small Data usage? 1
 (a) Tracking sales data in a small store to decide which products to restock
 (b) Analysing social media posts for customer feedback
 (c) Predicting movie recommendations for online users
 (d) Processing large sensor readings for weather forecasting
- iii. What is the main advantage of using Big Data in business? 1
 (a) It reduces the need for employees.
 (b) It simplifies data entry for businesses.
 (c) It helps find patterns, make smart predictions, and improve decision-making.
 (d) It replaces customer service departments.
- iv. Structured data includes which of the following types of data? 1
 (a) Quantitative data (such as prices and sales figures)
 (b) Qualitative data (such as dates and addresses)
 (c) Both (a) and (b)
 (d) None of these
- v. Which of the following is a common example of semi-structured data? 1
 (a) SQL database (b) XML file
 (c) Audio recording (d) Printed document
- vi. How does Big Data benefit modern businesses? 1
 (a) By simplifying manual data entry tasks
 (b) By enabling organisations to make informed, data-driven decisions
 (c) By limiting data access to only authorised employees
 (d) By replacing customer service with automated systems

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 3 out of the given 4 questions on Employability Skills (2 x 3 = 6 marks)

Answer each question in 20 – 30 words.

- Q 6. Why feedback is important? 2
- Q 7. What are the two types of motivation? 2
- Q 8. What is an Active cell? 2
- Q 9. What is meant by a business idea? 2

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

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|--|---|---|
| Q 10. | What is Accuracy? | 2 |
| Q 11. | What is the purpose of the data preparation stage in data analysis? | 2 |
| Q 12. | What is computer vision? | 2 |
| Q 13. | How do machines see and recognise objects? | 2 |
| Q 14. | What is Structured data? | 2 |
| Q 15. | How does Big data help in optimising supply chain management? | |
| Answer any 4 out of the given 6 questions in 50– 80 words each (3 x 4 = 12 marks) | | |
| Q 16. | Differentiate between unstructured and semi structured data. | 3 |
| Q 17. | Explain any three disadvantage of Big data. | 3 |
| Q 18. | Explain any three challenges of computer vision. | 3 |
| Q 19. | Explain a. Image normalization b. Cropping Images | 3 |
| Q 20. | Differentiate between classification and regression. | 3 |
| Q 21. | Explain the role of DBA programmer in data collection. | 3 |

*** **“ALL THE BEST !”*****