



B.K. BIRLA CENTRE FOR EDUCATION

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



TERM-1 EXAMINATION (2026-27)- SET 02
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 5 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. Which of the following factors does not improve active listening? 1
(a) Eye contact (b) Being preoccupied
(c) Gestures (d) Giving feedback
- ii. Which of these sentences has both a direct object and an indirect object? 1
(a) I am working on a presentation. (b) She bought a blue pen.
(c) The girls played cricket. (d) He wrote a letter to his sister.
- iii. Which of the following is not the correct way to manage stress? 1
(a) Practice yoga and meditation (b) Eat junk food like burgers
(c) Talk to your family and friends (d) Get adequate sleep
- iv. Which of the following does **not** exist in a slide layout in Impress? 1
(a) Title (b) Animation (c) Image (d) Text Box
- v. An entrepreneur's primary responsibility is to secure the timely availability of all the 1
_____.

- (a) Money (b) Infrastructure (c) Resources (d) Supplies
- vi. What do professionals in waste management aim to reduce? 1
 (a) Landfill waste (b) Renewable energy
 (c) Green spaces (d) Water resources
- Q 2. Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**
- i. Which of the following is used to access a range of elements from an array? 1
 (a) Indexing (b) Slicing (c) Looping (d) Sorting
- ii. A Pandas DataFrame is a: 1
 (a) One-dimensional data structure (b) Two-dimensional data structure
 (c) Three-dimensional data structure (d) Text file
- iii. In a 2-D array, `a[0,1]` represents: 1
 (a) First row, second column (b) Second row, first column
 (c) First row, first column (d) Second row, second column
- 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. How many steps are included in the Data Science Methodology? 1
 (a) 5 (b) 8 (c) 10 (d) 12
- vi. Which framework is commonly used in the 'Problem Scoping and Defining' stage? 1
 (a) KNN Algorithm (b) 5W1H Problem Canvas
 (c) Decision Trees (d) Linear Regression
- Q 3. Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**
- i. Which of the following is an example of Diagnostic Analytics? 1
 (a) Calculating the average marks of students.
 (b) Identifying why a mobile phone company's sales dropped.
 (c) Forecasting next year's sales based on past trends.
 (d) Recommending solutions to improve marketing.
- ii. Which of the following is NOT a common method of data collection? 1
 (a) Forms and Questionnaires (b) Focus Groups
 (c) Social Media Monitoring (d) Fictional Storytelling
- iii. Which of the following are common forms of feedback in the AI model life cycle? 1
 (a) User reviews (b) Performance reports
 (c) Error logs (d) All of these
- iv. _____ measures how well the model predicts positive cases correctly. 1
 (a) Accuracy (b) Precision (c) Recall (d) F1 Score
- v. What is the main goal of Computer Vision (CV)? 1
 (a) To make computers understand spoken language
 (b) To enable computers to see, observe, and understand the visual world
 (c) To teach computers how to write poetry
 (d) To improve internet speed
- vi. What does a computer "see" when it processes an image? 1
 (a) The real-world object directly
 (b) A collection of numbers representing pixel values
 (c) A 3D representation of the object
 (d) A set of verbal descriptions of the object
- Q 4. Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**
- i. Which colour model is commonly used in Computer Vision for coloured images? 1
 (a) CMYK (b) HSV (c) RGB (d) Greyscale

- ii. What does high resolution mean in terms of digital images? 1
 (a) More pixels per unit area, resulting in finer detail
 (b) Fewer pixels but more brightness
 (c) Faster image processing
 (d) Images with more text labels
- iii. Which preprocessing technique enhances image contrast? 1
 (a) Noise reduction (b) Histogram equalization
 (c) Feature extraction (d) Image segmentation
- iv. A digital image is stored as a sequence of tiny squares called _____. 1
 (a) Pixels (b) Frames (c) Vectors (d) Layers
- v. _____ in Computer Vision refers to a set of techniques used to improve the quality and usability of an acquired image, preparing it for further analysis or processing tasks. 1
 (a) Image Acquisition (b) Image Preprocessing
 (c) Image Classification (d) Image Recognition
- 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
- Q 5. Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**
- i. How does Big Data contribute to innovation and growth in industries like healthcare and pharmaceuticals? 1
 (a) By reducing patient data collection to maintain privacy
 (b) By using predictive analytics to improve patient care and data-driven research to develop new medicines
 (c) By limiting research data to only traditional methods
 (d) By avoiding technological advancements to reduce costs
- ii. Which data protection law requires companies to follow strict guidelines for handling personal data? 1
 (a) CCPA (b) GDPR (c) HIPAA (d) PCI-DSS
- iii. What is a major concern that arises due to biased data or algorithms? 1
 (a) Faster data processing (b) Improved decision-making
 (c) Unfair outcomes and discrimination (d) Enhanced security
- iv. Which type of model helps anticipate risks and enables proactive mitigation strategies? 1
 (a) Descriptive Model (b) Diagnostic Model
 (c) Predictive Model (d) Prescriptive Model
- v. 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.
- vi. 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

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. What is Active Listening? 2
- Q 7. What is personality? 2
- Q 8. Define Spreadsheet. 2
- Q 9. Who is an entrepreneur? 2

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

- Q 10. What is F1 score? 2
Q 11. Name any two technique used in Diagnostic Analytics to find the root cause. 2
Q 12. What is deep learning? 2
Q 13. What does instance segmentation do in computer vision? 2
Q 14. What is Unstructured data? 2
Q 15. What are the six key attribute that define Big data?

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

- Q 16. Explain three advantage of Big data. 3
Q 17. Explain any three characteristics of data. 3
Q 18. Explain the role of DBA programmer in data collection. 3

Q 19. Expalin a. Resizing Images b. Histogram equalization 3
Q 20. Explain any three application of computer vision. 3

Q 21. Explain primary data source with examples. 3

***** “ALL THE BEST !” *****