BK BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL
MID TERM EXAMINATION 2024-25
ARTIFICIAL INTELLIGENCE (843)

INDIAN PUBLIC SCHOOLS' CONFERENCE

Class: XI	**Duration: 2 hrs.**
Date: 23-09-2024	**Max Marks: 50**
Name: ……………………………	**Exam No.**

General Instructions:

1. Question paper is divided into two parts: Part-A & Part-B.

2. Part-A has two sections namely Section-A and Section-B. Section-A has 1 mark questions and Section-B has 2 marks questions.

3. Part-B has four sections namely Section-C, Section-D, Section-E & Section-F. Section-C has 1 mark questions, Section-D has 2 marks questions, Section-E has 3 marks questions and Section-F has 4 marks questions.

PART-A (EMPLOYABILITY SKILLS)

SECTION-A (Attempt only 6)

1. What is the purpose of Communication ?   1
   (a) Inform (tell someone about something) (b) Influence(get someone to do something you want) (c) Share thoughts, ideas, feelings (d) All of these

2. Which of the following is NOT a component of effective communication?   1
   a) Clarity b) Feedback c) Ambiguity d) Active Listening

3. _____ refers to knowing one's potential by examining and analyzing intellectual and spiritual capacities.   1
   (a) Self-management (b) Self exploration (c) Grooming (d) Intelligence

4. _____ refers to the things people do to keep themselves neat and presentable.   1
   (a) Team norms   (b) Team Process (c) Grooming (d) None of these

5. _____ is not an alignment option in OpenOffice Writer.   1
   (a) Left (b) Justified (c) Squeeze (d) Right

6. _____ are basically the beliefs about what matters the most, how to behave and which goals are important to achieve.   1
   (a) Values   (b) Perseverance (c) Attitude (d) None of these

7. In _____ business activity, the services are intangible and cannot be felt or seen.   1
   (a) Manufacturing (b) Service (c) Trading (d) None of these

8. _____ is in which economic growth and environmental responsibility work together in a mutually reinforcing fashion while supporting progress on social development. 1
(a) White economy (b) Green economy (c) Clean energy (d) None of these

SECTION-B (Attempt only 2)

9. Explain the factors affection perspective in communication. Explain any two. 2

10. What is a team ? Mention some factors which influence team building. 2

11. By mistake, Niti has typed the entire document in small letter. Which option of Change Case option will she use if she wants to have only the first character in capital ad rest in small letter in a sentence ? Name the menu that has the Change Case option. (**Note: Openoffice Writer**) 2

12. What are the three types of business activities? Explain any two. 2

13. Mention some policy initiatives for green economy in India. Explain any two. 2

PART-B (SUBJECT SPECIFIC SKILLS)

SECTION-C (Attempt any twelve)

14. Name the founding father of Artificial Intelligence ? 1

15. In which year, LISP (List Processing) AI programming language was developed ? 1

16. **Assertion / Reason:**

    Statement 1: Generative AI can be used to create new and original works of art. 1
    Statement 2: Generative AI models can be trained on massive datasets of existing artwork, allowing them to generate new creative account.

    (a) Statement 1 is correct, but statement 2 is incorrect.
    (b) Statement 1 is incorrect, but statement 2 is correct.
    (c) Both the statements are correct. (d) Both the statements are incorrect.

17. The demand for skilled AI professionals is: 1
    (a) Decreasing due to automation. (b) Stagnant and not growing.
    (c) Increasing rapidly due to widespread AI adoption.
    (d) Limited to a few specific countries.

18. **Assertion / Reason:**

    Statement 1: A career in AI is only suitable for people with strong computer science backgrounds. 1
    Statement 2: AI involves complex algorithms and programming languages.
    (a) Statement 1 is correct, but statement 2 is incorrect.
    (b) Statement 1 is incorrect, but statement 2 is correct.
    (c) Both the statements are correct. (d) Both the statements are incorrect.

19. AI can be used in _____ to optimize traffic flow and improve safety. 1

20. Name two features of Python programming Language.   1

21. Define Tokens. List examples.   1

22. Predict the output of the given python code snippet: 1
for **i** in range(1,10):

23. 5W1H model stands for :   1
(a) Why, What, Who, Where, when and How (b) Why, What, Who, Where, When
(c) Why What, Who, Where, When and Key (d All of these

24. Brain writing is also known as ____.   1

25. After you ideate, the next step is to _____.   1

26. In a set of numbers {2, 5, 7, 7, 9}, What is the mode ?   1

27. Which chart is best suited for comparing multiple categories and their   1
corresponding values ?
(a) Scatter Chart (b) Line Chart (c) Bar Chart (d) Histogram

28. A matrix with 2 rows and 3 columns is referred to as a: 1
(a) Square matrix (b) Row matrix (c) Column matrix (d) Matrix of order 2x3

SECTION-D (Attempt any five)

Name two broad categories of A.I. Explain it with an example.   2

29. Imagine yourself working in an AI role in a specific industry (e.g., healthcare,   2
finance, retail). Describe what your day-to-day tasks and responsibilities might
look like.

30. Write a program to calculate the area of a rectangle given the length and breadth   2
are 50 and 20 respectively.

31. Differentiate between **Series** data structure and **DataFrame** data structure.   2

32. Define :   2
(a) Empathy Map   (b) Design Thinking

33. Calculate the mean of the following grouped data.   2

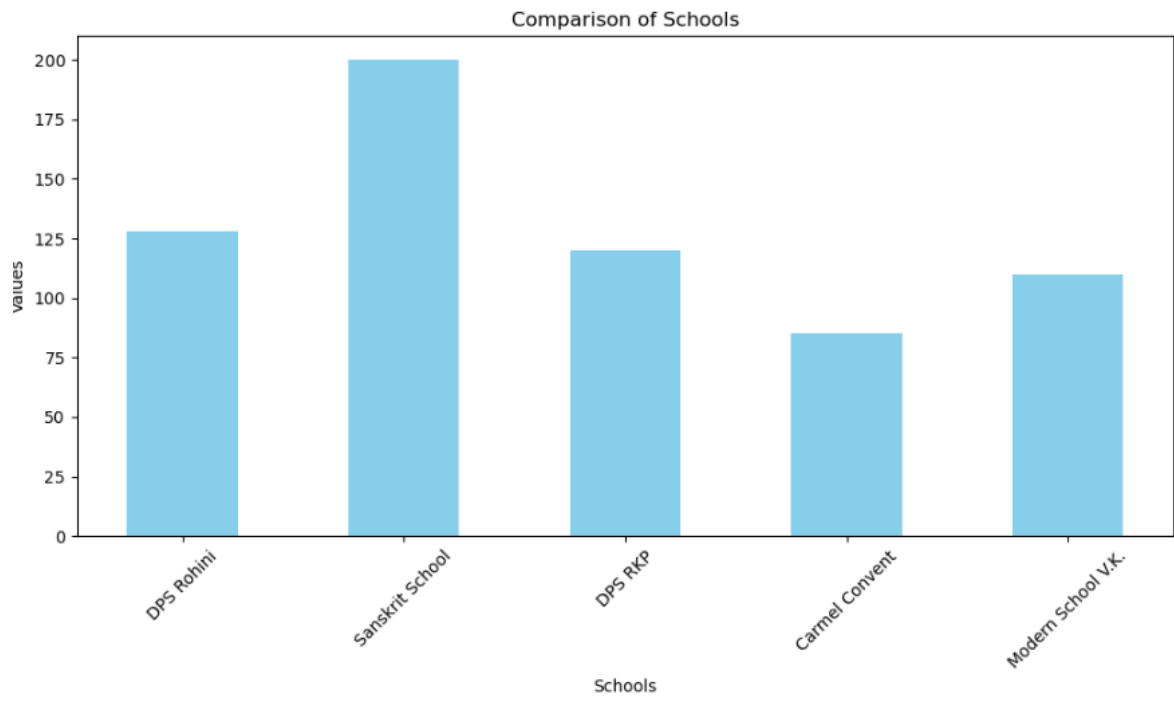| Class	Frequency
2 - 4	3
4 - 6	4
6 – 8	2
8 – 10	1

SECTION-E (Attempt any two)

34. Categorize the given 15 applications into three domains: 3
(DATA SCIENCE, NATURAL LANGUAGE PROCESSING, COMPUTER VISION)
1.Gesture recognition for human-computer interaction
2.Chatbots for customer service
3.Spam email detection
4.Autonomous drones for surveillance
5.Google Translate
6.Fraud detection in financial transactions
7.Augmented reality applications (e.g., Snapchat filters)
8.Sports analytics for performance optimization
9.Object detection in autonomous vehicles
10.Recommendation systems for e-commerce platforms
11.Customer segmentation for targeted marketing
12.Text summarization for news articles
13.Automated subtitles for videos
14.Medical image diagnosis
15. Stock prediction

35. Write a program to read name and marks of a student. Kindly enter marks of at-least 3 subjects and display the total mark.   3

36. How is a matrix represented ? What are some special types of matrices ? Explain one with example.   3

SECTION-F (Attempt any three)

39. Mention minimum four differences between MACHINE LEARNING and DEEP LEARNING.   4

40. Consider the following admission.csv and answer the following questions: 4

Name	Class	Gender	Marks
Arjun	10	Male	85
Sneha	9	Female	92
Rohan	9	Male	78
Priya	10	Female	88
Vikram	11	Male	79
Aditi	10	Female	91
Ravi	9	Male	82
Meera	10	Female	89
Aman	9	Male	77

a) Create a dataframe from the admission.csv
b) Display the first three rows of the dataframe.
c) Display the details of 'Vikram'.
d) Display the column 'Gender'

41. List five phases of Design Thinking. Briefly describe any 3 phases.   4

42. Write a python program to create a bar graph as given below: 4

Comparison of Schools

"ALL THE BEST !!!"