केन्द्रीय विद्यालय संगठन, कोलकाता संभाग

KENDRIYA VIDYALAYA SANGHATHAN, KOLKATA REGION

सत्रांत परीक्षा / SESSION ENDING EXAMINATION(2025-26)

कक्षा / CLASS – IX

पूर्णांक / FULL MARKS - 50

समय / TIME – 2 घंटे / Hrs.

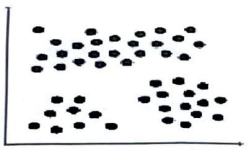
विषय / SUBJECT – ARTIFICIAL INTELLIGENCE (417)

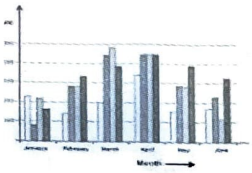
सामान्य निर्देश:	GENERAL INSTRUCTIONS:
1. यह प्रश्न पत्र दो खंडों में विभाजित है: **खंड-A** एवं **खंड-B**। कुल प्रश्नों की संख्या **21** है। 2. प्रत्येक खंड के प्रश्नों को निर्धारित क्रम में ही हल करना अनिवार्य है। 3. **खंड-A : वस्तुनिष्ठ प्रकार के प्रश्न** *(24 अंक)* i) इस खंड में कुल **5 प्रश्न** हैं। ii) इस खंड में **नकारात्मक अंकन नहीं है।** 4. **खंड-B : वर्णनात्मक प्रकार के प्रश्न** *(26 अंक)* iii) इस खंड में कुल **16 प्रश्न** दिए गए हैं। iv) परीक्षार्थी को इनमें से किसी भी 10 प्रश्नों को हल करना अनिवार्य है। 5. प्रत्येक उत्तर के साथ संबंधित प्रश्न संख्या सही ढंग से लिखना अनिवार्य है। अन्यथा अंक काट लिए जाएंगे।	1. This question paper consists of **21 questions** in two sections: Section A & Section B. 2. All questions of a particular section must be attempted in the correct order. 3. **Section A: Objective Type Questions. (24 Marks):** *i)* This section has 5 questions. *ii)* There is no negative marking. 4. **Section B: Subjective Type Questions. (26 Marks):** *i)* This section has 16 questions. *ii)* A candidate has to do 10 questions. 5. It is mandatory to correctly mention that respective question number with each answer. Otherwise marks will be deducted.

SECTION:A

Q1.	Answer any 4 out of the given 6 questions.	1 x 4 = 4
i.	You have been standing in a queue for a long time to buy tickets for a movie. A man suddenly comes and stands in front of you without his turn. What would you do? a) Scream at the person so that he would never repeat the mistake. b) Tell him politely that there is a queue and everyone is waiting for his/her turn. c) Stand quietly and let the person go ahead. d) Complain about him to other people.	1
ii.	**Assertion (A):**Self-confident people are not ambitious. **Reason (R):**They have control over their emotions and thoughts. a) Both Assertion (A) and Reason (R) are true, and R is the correct explanation of A. b)Both Assertion (A) and Reason (R) are true, but R is not correct explanation of A. c)Assertion (A) is true, but Reason (R) is false. d)Assertion (A) is false, but Reason (R) is true.	1
iii.	Staying with the current situation with new updated information and preparing yourself for new challenges is called _____. a) Responsibility b) Adaptability c) Time management d) Self-awareness	1
iv.	Your friend said, "Technology can replace the teacher in coming decades and we will see no teachers in classroom". What will you say about this statement? a) The first part of this statement is true. b) The second part of this statement is true. c) This statement is true. d) This statement is false.	1
v.	Meenu decides to sell her company tyres in Qatar. It does not sell and she has a loss. She apologizes to the people who work for her. She says she will plan better next time. She _____. a) takes responsibility for your mistakes b) thinks before deciding c) does not give up d) is creative	1

vi.	What is the purpose of a bio-toilet? a) Increase water wastage b) Convert human waste into usable water c) Promote plastic use d) Encourage deforestation	1

Q2.	**Answer any 5 out of the given 6 questions.**	**1 x 5 = 5**
i.	4W's problem canvas does not consider _____ (a) When (b) Where (c) Why (d) Who	1
ii.	Identify the data modelling technique.  a)Regression b) Classification c) Clustering d) Dimensionality reduction	1
iii.	Your school has collected data on the academic performance of students across different subjects and grade levels. Which of the following approaches can help teachers and administrators make informed decisions about curriculum planning and student support. (a) Create a presentation with text-based explanations of the data. (b) Create visualizations without any analysis or interpretation. (c) Analyze the data and create informative visualizations, explaining how they can aid decision-making. (d) Ignore the data and rely on personal experiences and opinions.	1
iv.	What is the probability of getting head when you toss a coin once? a) 0.75 b) 1 c) 0 d) 0.5	1
v.	**Assertion (A):** Generative AI can create new content such as images, text, music, and videos. **Reason (R):**Generative AI uses patterns learned from existing data to generate new content. **a)** Both Assertion (A) and Reason (R) are true, and R is the correct explanation of A. **b)** Both Assertion (A) and Reason (R) are true, but R is not correct explanation of A. **c)** Assertion (A) is true, but Reason (R) is false. **d)** Assertion (A) is false, but Reason (R) is true	1

vi.	The data type of 18.2 is _____ in Python. a) int b) float c) string d) list	**1**
Q3.	**Answer any 5 out of the given 6 questions.**	**1 x 5 = 5**
i.	Choose the five stages of AI project cycle in correct order: a) Evaluation -> Problem Scoping -> Data Exploration -> Data Acquisition -> Modelling b) Problem Scoping -> Data Exploration -> Data Acquisition -> Evaluation -> Modelling c) Data Acquisition -> Problem Scoping -> Data Exploration -> Modelling ->Evaluation d) Problem Scoping -> Data Acquisition -> Data Exploration -> Modelling ->Evaluation	
ii.	Name the following chart prepared using Tableau software?  a)Bar chart b)Pie chart c)Histogram d) Packed Bubble chart	**1**
iii.	The process of collecting data from websites is called a) Web screening b) Web scraping c) Web browsing d) Web surfing	**1**
iv.	Find the Mode of the call received on 7 consecutive day 15,23,21,19,23,19,23 a) 15 b) 19 c) 21 d) 23	**1**
v.	Which of the following is a concern regarding the ethical use of generative AI? a)It promotes fair decision-making processes b)It ensures data privacy and security c)It raises issues of copyright infringement and misuse d)It decreases reliance on human labour	**1**

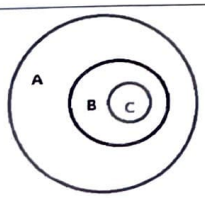
vi.	What does the following code print?
	if 7 + 8 == 20:
	print("YES")
	else:
	print("NO")
	a) YES b) NO c) None of them d) ERROR
		1

Q4.	**Answer any 5 out of the given 6 questions.**	**1 x 5 = 5**
i.	Deep Learning is not a part of Rule Based AI model. ***(State True or False)***	1
ii.	What is not the advantage of Data interpretation a) Informed decision making b) Reduced cost c) Identification of needs d) Record keeping	1
iii.	The sum of probabilities of all possible outcomes is always 1. ***(State True or False)***	1
iv.	What is the Mean of the data set {3, 6, 9, 12, 15, 18}? a) 10 b) 11 c) 10.5 d) 11.5	1
v.	Which of the following is a task that Conventional AI can perform? a)Creating new pieces of art b)Diagnosing diseases from medical images c)Writing novels d)Generating new human faces	1
vi.	Which of the following is an invalid variable name in Python? a) my_varb) 1st_variablec) _variabled) variable_1	1

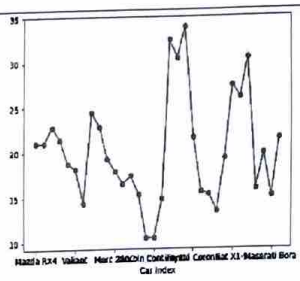
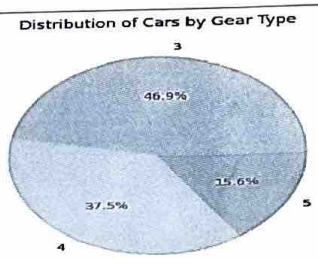
Q5.	**Answer any 5 out of the given 6 questions.**	**1 x 5 = 5**
i.	**Assertion (A):**Data privacy is an essential component of AI data literacy. **Reason (R):**Protecting personal information within datasets is not required as long as the AI provides accurate results. Consider both the statements and choose the correct answer. **a)** Both Assertion (A) and Reason (R) are true, and R is the correct explanation of A. **b)** Both Assertion (A) and Reason (R) are true, but R is not the correct explanation of A. **c)** Assertion (A) is true, but Reason (R) is false. **d)** Assertion (A) is false, but Reason (R) is true	1
ii.	While designing a surveillance system for the premises where a costly diamond was to be kept for exhibition, we do the following tasks: 1. Get photographs of all the authorised people. 2. Get photographs of all the unauthorised people. 3. Get photographs of the premises. 4. Get photographs of all the visitors. Which stage of AI project cycle we are talking about? a) Problem scoping b) Data Exploration c) Modelling d) Data Acquisition	1

iii.	What is the primary purpose of statistics? (a) To collect and analyze data(b) To study historical events (c) To solve mathematical equations(d) To predict future outcomes	1
iv.	Which of the following is a characteristic of Generative AI? a)It can only classify data b)It generates new data similar to the data it was trained on c)It cannot learn from data d)It is used for numerical calculations only	1
v.	What is the GAN in GAN Paint? (a) Generative Adversarial Network (b) Learning from examples (c) General Art Network (d) Graphics Animation Network	
vi.	In Python, which of the following characters is used to create single line comment a) // b) # c)! d) /*	

SECTION : B

	Answer any 3 out of the given 5 questions (Q6–Q8).	**2x3=6**
Q6.	Write the difference between Non-Verbal and Visual Communication with examples.	**2**
Q7.	How can one build self-confidence?	**2**
Q8.	The school has instructed students to follow cyber safety rules while using computers and the internet. Why is cyber safety important for students while using the internet?	**2**
Q9.	"Entrepreneurs are born, not made." Do you agree with this statement? Justify your answer.	**2**
Q10.	What is the importance of green economy?	**2**
	Answer any 4 out of the given 6 questions (Q11–Q16).	**2x4=8**
Q11.	 (i) Deep Learning, (ii) Artificial Intelligence, (iii) Machine Learning Replace these with A, B, and C accordingly and draw the Venn diagram correctly.	**2**

Q12.	Differentiate between independent and dependent features of data	**2**
Q13.	Explain how statistics is used in predicting the result of a Cricket match.	**2**
Q14.	A football player has hit 8 out of 12 free-kick attempts. Based on this performance, the coach is predicting the player's likelihood of scoring the next free kick. What is the probability that the player will make the next free kick?	**2**
Q15.	Differentiate Generative AI and Conventional AI, with examples.	**2**
Q16.	What will be the output of the following : print ("hello \n") print("Class 9\n Artificial Intelligence")	**2**

	Answer any 3 out of the given 5 questions (Q15–Q17).	**4x3=12**
Q17.	A school plans to introduce an AI-based attendance system that uses facial recognition. The system will collect student images, process them, and mark attendance automatically. Explain how the AI Project Cycle will be applied to develop this system. Mention the key stages involved and their role.	**4**
Q18.	What is Data Literacy? Who is a Data Literate? Differentiate between discrete data and continuous data with examples.	**1+1+2=4**
Q19.	(i)  (ii)  Identify the types of charts given above. Also write one application of each type.	**2+2=4**
Q20.	Write down four common real-life examples where probability is applied.	**4**
Q21.	How do you think generative AI can revolutionize the creative industry, such as art and fashion, by enabling the generation of unique and innovative designs?	**4**

****