

MARKING SCHEME

Code:KVS(DR)/2024/HU

KENDRIYA VIDYALAYA SANGATHAN, DELHI REGION
ANNUAL Examination-2024-25

Class- IX Subject: (417) ARTIFICIAL INTELLIGENCE


MM.- 50

Time: 2:00 Hours

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 questions.
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


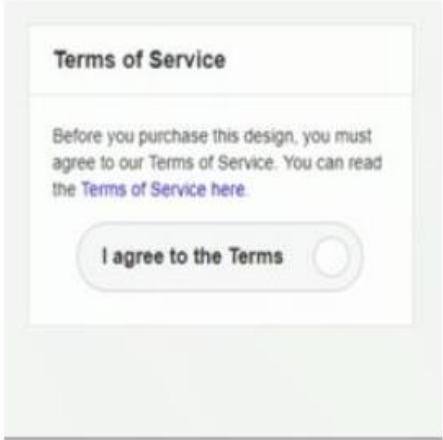
SECTION A: OBJECTIVE TYPE QUESTIONS		
Q 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i)	The process of converting messages into communication symbols, which may be understood by the receiver is called ----- (a) Encoding (b) Decoding (c) Feedback (d) compilation Ans a) Encoding	1
ii)	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 Ans B) Adaptability	1

iii)	Which among the following is not a command `key on keyboard? a) Insert b) DEL c) Backspace d) Alt Ans d) Alt	1
iv)	Which of the following is the Managerial function of an entrepreneur? a) Idea discovery b) Planning c) Detailed Investigation d) Assembling the requirements Ans b) Planning	1
v)	What are the components of a Green Economy? a) Renewable Energy b) Water management c) Waste Management d) All of the above Ans d) All of the above	1
vi)	If you know yourself as an individual – your values, likes, dislikes, and weaknesses. It means that you are _____ a) Self-confident b) Self-controlled c) Self-motivated d) Self-aware Ans) d) Self aware	1
Q 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i)	Deployment is the final stage in the AI project cycle where the AI model or solution is implemented in a real-world scenario. (True/False) True	1
ii)	The process of breaking down the big problem into a series of simple steps is known as: a. Efficiency b.Modularity c. Both a) and b) d.None of the above Ans-Modularity	1
iii)	Identify and Name the following chart  a) Bar chart b)Line CHart c) Histogram d)Box Plot Answer- Line Chart	1
iv)	_____ summarises all the key points of a problem as a single format. Problem Statement Template	1

	Ans- d) Data Literacy framework	
v)	The probability that you can pick a Red flower from a bag containing 7 Red flowers balls is a) 0 b) 1/7 c) 1 d) 7/1 Ans c) 1	1
vi)	AI uses Math for a) Exploring Data b) Training and improving AI model c) predicting different events d) All of the above Ans d) All of the above	1
Q 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i)	The most frequently occurring value in a data set is called the: a) Mean b) Median c) Mode d) Range Ans: c. Mode	1
ii)	If you select a balloon from a bag with all red balloons without looking, how likely is it that you will pick a blue one? a) Probable b) Certain c) Unlikely d) Impossible Ans d) impossible	1
iii)	Assertion (A): AI needs Math to study and recognize patterns in order to take decisions Reason(R) : Math is the study of patterns a) Both A and R are correct and R is the correct explanation of A b) Both A and R are correct but R is not the correct explanation of A c) A is correct but R is not correct d) A is not correct but R is correct Ans a) Both A and R are correct and R is the correct explanation of A	1
iv)	Which among the following is not a text based Generative AI Tool? a) Gemini b) ChatGPT c) Copilot d) ArtBreeder Ans a) ArtBreeder	1
v)	Which AI technology would you use to create a new image based on existing images? a) Conventional AI b) Generative AI c) Spreadsheet software d) Database management systems Ans b) Generative AI	1
vi)	What is a key difference between Generative AI and Conventional AI?	1

	a)Generative AI cannot learn from data, while Conventional AI can b)Generative AI creates new data, while Conventional AI analyzes existing data c) Conventional AI generates new data, while Generative AI only analyzes data d)There is no difference; they are the same Ans b) Generative AI creates new data, while Conventional AI analyzes existing data	
Q 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i)	Which ethical issue is associated with bias and fairness in generative AI algorithms? a) It ensures equal access to resources for everyone b) It perpetuates societal biases present in training data c) It limits the scope of AI applications d) It improves decision-making processes Ans b) It perpetuates societal biases present in training data	1
ii)	_____ has a specific meaning in python program a) Constant b) Variable c) Keyword d) Identifier Ans c)Keyword	1
iii)	Datatype of 6.75 is _____ a) String b) Float c) Integer d) Boolean Ans b) Float	1
iv)	Find the invalid variable among the following: a) 1st_count b) my_choice c) _kv d) Funday Ans a) 1st_count	1
v)	What of the following is not mutable data type. a) List b) Tuple c) Both d) None of these Ans C) Tuple	1
vi)	In Python, which of the following characters is used to create single line comment a) // b) # c) ! d) /* Ans b) #	1
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	Anju and Sanju were discussing various means of communication. Sanju is confused about the means of non- verbal communication. Help Anju explain her any two ways of non-verbal communications.	2

	<p>Ans Posture: Postures are positions of the body. They show our confidence and feelings. For example, straight body posture is seen as confidence.</p> <p>Gestures or Body Language: Gestures describe movements of parts of the body, especially hands or head, to express an idea or meaning. This includes waving, pointing and using our hands when speaking. For example, raising a hand may mean asking a question.</p>	
Q 7	<p>How the 'Ability to work independently' can be enhanced. Give any two reasons. Ans) The ability to work independently can be enhanced by being self-aware, self-motivated and self-regulated.</p> <p>(i) Self-awareness- It is about conscious of your own self skills and feelings. It helps individuals to chat their ways for working independently.</p> <p>(ii) Self-motivation- self-motivated individuals have a higher chance of achieving their goals as they have an internal push to do something.</p> <p>(iii) Self-regulation- self-motivation helps us to consider long term consequences rather than just passing feelings.</p>	2
Q 8	<p>What are the common signs of a virus attack? Ans. Common signs of a virus attack are::</p> <ul style="list-style-type: none"> ● Computer runs very slow ● There is change in the file size ● Computer often stops responding ● There is an increase in number of files (unusual) ● Unusual error message appears on the screen ● Computer restarts on its own 	2
Q 9	<p>Give any two reasons as to why an individual should strive for becoming a job-creator instead of a job-seeker and opt for entrepreneurship as his/her career. Ans Significance of Entrepreneurship as career: (any two points)</p> <ol style="list-style-type: none"> i. Nurtures development of entrepreneurial skills and capabilities ii. Enables application of an entrepreneurial mindset iii. Develops the ability to handle failure and ambiguity iv. Enhances critical thinking and problem-solving ability v Provides early exposure to the real world i Inspires to think about one's career differently vii. Leads to creating difference in society (Any 2) 	2
Q 10	<p>List 4 ways how we can conserve energy? Ans)</p> <ol style="list-style-type: none"> 1. Use LED bulbs instead of using Tube light or normal bulbs. 2. Switch of fans, TV, lights and other electrical appliances when it is not used. 3. Using a pressure cooker to make food will save energy. 4. Keep the bulb and tubes clean. 	2
	Answer any 4 out of the given 6 questions in 20-30 words each(2 x 4 = 8 marks)	

<p>Q 11</p>	<p>Anil is a software engineer mainly involved in deployment activities. His son is in grade V and eager to know about the key steps involved in deployment phase. Help Anil to explain his son about Deployment phase.</p> <p>Ans . Key steps involved in the deployment process: a. Testing and validation of the AI model b. Integration of the model with existing systems c. Monitoring and maintenance of the deployed model.</p>	<p>2</p>
<p>Q 12</p>	<p>Harsh needs to collect data for her AI project. Please suggest him any 4 methods of Data Acquisition. Surveys, Web Scraping, Interviews, Observations, APIs (Any four)</p>	<p>2</p>
<p>Q 13</p>	<p>Compare and contrast Generative AI and Conventional AI, providing examples of each. Ans Generative AI creates new data similar to existing data, while discriminative AI classifies or predicts outcomes based on data. For example, GANs (Generative Adversarial Networks) generate realistic images, whereas discriminative models like CNNs (Convolutional Neural Networks) identify objects in images.</p>	<p>2</p>
<p>Q 14</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Downloaded an unverified mobile application</p> </div> <div style="text-align: center;">  <p>Accepted the Terms of Service without reading</p> </div> </div> <p>Ans: Data privacy referred to as information privacy is concerned with the proper handling of sensitive data including personal data and other confidential data, such as certain financial data and intellectual property data, to meet regulatory requirements as well as protecting the confidentiality and immutability of the data.</p>	<p>2</p>

	<p>Data security is the practice of protecting digital information from unauthorized access, corruption, or theft throughout its entire lifecycle. Data Privacy is governing how data is collected, shared and used</p> <p>Data security is protecting data from attackers who might want to misuse it.</p>					
Q 15.	<p>Identify the likely, unlikely, impossible and equal probability events from the following</p> <table border="0"><tr><td>a) Tossing a coin</td><td>b. Rolling an 8 on a standard dice</td></tr><tr><td>c. Throwing ten 5's in a row</td><td>d. Drawing a card of any suite</td></tr></table> <p>Ans a) equal b) Impossible c) unlikely d) likely</p>	a) Tossing a coin	b. Rolling an 8 on a standard dice	c. Throwing ten 5's in a row	d. Drawing a card of any suite	2
a) Tossing a coin	b. Rolling an 8 on a standard dice					
c. Throwing ten 5's in a row	d. Drawing a card of any suite					
Q 16	<p>List 2 negative Impacts of generative AI on Society?</p> <p>Ans (Any two)</p> <ol style="list-style-type: none">1. Privacy concerns2. Job displacement3. Bias and discrimination4. Misinformation and deep fakes	2				
	Answer any 3 out of the given 5 questions in 50- 80 words each (4 x 3 = 12 marks)					
Q 17	<p>How can AI be used as a tool to transform the world into a better place? AI can be used to make the world better by improving productivity, healthcare, education, and accessibility. AI systems can predict and solve critical problems like climate change, help optimize resource use, enhance medical diagnosis with Computer Vision and NLP, improve personalized education, and increase efficiency in various industries. AI can also aid in monitoring environmental changes and managing large-scale social challenges like poverty and food security.</p>	4				
Q 18	<p>Separate the following areas based on the kinds of domains widely used in them:</p> <ol style="list-style-type: none">a. Crop productivityb. Traffic regulationc. Maps and navigationd. Text editors and autocorrecte. Identifying and predicting disease <p>Ans)</p> <ul style="list-style-type: none">● Crop productivity: Data Science (for analyzing weather and yield data) and Computer Vision (for pest detection). 1 mark● Traffic regulation: Computer Vision (for monitoring and managing traffic). ½ mark● Maps and navigation: Data Science (analyzing location data) and NLP (for voice-based navigation commands). ½ mark● Text editors and autocorrect: Natural Language Processing. ½ mark● Identifying and predicting disease: Computer Vision (for medical imaging) and Data Science (for analyzing patient data). 1 mark	4				

<p>Q 19</p>	<p>Ruchika of class X, is working on a project in school that studies the interests of her school children. She has collected the data. As a friend, suggest her the importance of Data Interpretation so that her project can yield some constructive results.</p> <p>Ans. It is the process of making sense out of data that has been processed. Analyzing data helps to arrive at meaningful decisions.</p> <ul style="list-style-type: none"> ● The interpretation of data helps us answer critical questions using data. ● It helps in Informed Decision making-A decision is only as good as the knowledge it is based on. ● It Reduces Cost- Identifying needs can lead to reduction in cost. ● It helps in identifying Needs- We can identify the needs of people by data interpretation 	<p>4</p>
<p>Q 20</p>	<p>Write a python program to input a number and check whether it is divisible by 5 or not</p> <p>Ans</p> <pre>n=int(input("Input a number:")) 1 mark if n%5==0: 1 mark for correct if with print print("Divisible by 5") else: 1 mark for correct else with print print(" Not divisible by 5") 1 mark for indentation</pre>	<p>4</p>
<p>Q 21</p>	<p>Consider the list countries =["France", "UK", "Denmark", "Los Angeles", "Italy", "Germany"]</p> <p>Write python statements for the following:</p> <ol style="list-style-type: none"> a) To print entire list of countries b) To print country Denmark from the list countries. c) To print the last element of list countries d) To update the element value UK with Great Britain <p>Ans</p> <ol style="list-style-type: none"> a) print(countries) b) print(countries[2]) c) print(countries[-1]) d) countries[1]="Great Britain" 	<p>4</p>