Maharaja Agrasen Model School , Pitampura, Delhi-34.

Mid Term Examination (2024-2025)

Class X

SAMPLE PAPER

Subject - Artificial Intelligence (417)

Max Marks : 50   **Time Allowed: 2 Hours**

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PART A - EMPLOYABILITY SKILLS (10 MARKS):

UNIT NO.	NAME OF THE UNIT	OBJECTIVE TYPE QUESTIONS	SHORT ANSWER TYPE QUESTIONS	TOTAL QUESTIONS
		1 MARK EACH	2 MARKS EACH	
1.	Communication	2	2	4
2	ICT Skills - II	3	1	4
	TOTAL QUESTIONS	5	3	8
	NO. OF QUESTIONS TO BE ANSWERED	**4**	3	7
	TOTAL MARKS	**1 x 6 = 6**	**2 x 2 = 4**	**10 MARKS**

PART B - SUBJECT SPECIFIC SKILLS (40 MARKS):

UNIT NO.	NAME OF THE UNIT	OBJECTIVE TYPE QUESTIONS	SHORT ANSWER TYPE QUESTIONS	DESCRIPTIVE/ LONG ANS. TYPE QUESTIONS	TOTAL QUESTIONS
		1 MARK EACH	2 MARKS EACH	4 MARKS EACH	
1	Introduction to AI	5	2	1	8
2	AI Project Cycle	3	3	3	9
3	Data Science	3	1	0	4
4	Computer Vision	3	2	0	5
	TOTAL QUESTIONS	14	8	4	**26**
	NO. OF QUESTIONS TO BE ANSWERED	14(14)	7 (14)	3 (12)	**24**

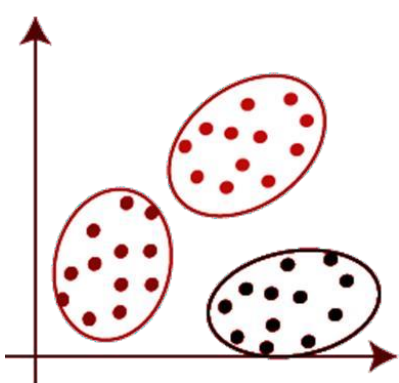## Sample Question Paper for Class X (Session 2024-2025)

Max. Time: 2 Hours   **Max. Marks: 50**

SECTION A: OBJECTIVE TYPE QUESTIONS

Q. 1	Answer any 4 out of 5 given questions: (4x1 = 4 marks)	
i.	What is the term used when you quickly click the left mouse button twice? (a) Hover (b) Drag and drop (c) Double clicking (d) Moving	1

ii.	Ravi learnt that if a laptop gets overheated, the internal parts get damaged. What happens if he leaves his device plugged in even after it is charged 100%? (a) It can break (b) It can stop functioning (c) It can overheat (d) Data can get corrupt	1
iii.	Here are the steps that take place when starting a computer. Rearrange the steps in the correct order. i) Desktop appears after login ii) Login screen appears iii) Power on Self-Test (POST) starts iv) Operating system starts v) Welcome screen appears a) i) -> ii) -> iii) -> iv) -> v) b) ii) -> iv) -> iii) -> v) -> i) c) iii) -> iv) -> v) -> ii) -> i) d) iii) -> v) -> iv) -> ii) -> i)	1
iv.	Which one of the following is an example of Operating System? a) Microsoft Word b) Microsoft Windows c) Microsoft Excel d) Microsoft Access	1
V.	The Traffic signal symbols like no entry or no parking are the examples of .... communication. a. Verbal b. Non Verbal c. Visual d. All of these	

Q. 2	Answer the 14 out of 15 given questions : (1 x 14 = 14 marks)	

i.	_____and_____are AI based applications that help us in navigation.	1
ii.	"This type of intelligence measure's one's awareness of the natural world around them and their sensitivities to any changes that occur. It allows us to identify the variation among two different species and understand how they are related". Identify the type of intelligence described in the above sentence.	1
iii.	Identify the incorrect statement(s) from the following: (i) Deep learning is a subset of Machine Learning (ii) Machine Learning is a subset of Deep Learning (iii) Artificial Intelligence is a subset of Deep Learning (iv) Deep Learning is the advanced form of AI and ML (a) only (i) (b) (ii) and (iii) (c) (i) and (ii) (d) Only (iii)	1
iv.	Search engines not only predict what popular searches may apply to your query as you start typing, but it looks at the whole picture and recognizes what you're trying to say rather than the exact search words. This is an example of (a) Computer Vision (b) Data Sciences (c) Natural Language Processing (d) Natural Language Understanding	1

v.	When a user installs an app in the smartphone, it asks for access to gallery, contacts, etc. After accepting this, it gives the user agreement which most users accept without realizing the implications. What is the concern here? (a) Data Privacy (b) Unemployment (c) AI bias (d) No concern	1
vi.	We can't make "good" decisions without information. (True/False)	1
vii.	Platforms like Netflix, Amazon, Spotify, YouTube etc. show us recommendations on the basis of what we like. (True/False)	1
viii.	What do you understand about Interpersonal Intelligence?	1
ix.	One of the major sources of data for many major companies is the device which all of us have in our hands all the time_____(Smartphone/ Mobile Phones)	1

x.	_____helps us to summarize all the key points into one single Template so that in future, whenever there is a need to look back at the basis of the problem, we can take a look at this and understand the key elements of it.	1
xi.	Divya was learning neural networks. She understood that there were three layers in a neural network. Help her identify the layer that does processing in the neural network. (a) Output layer (b) Hidden layer (c) Input layer (d) Data layer	1
xii.	Which of the following is not an authentic source for data acquisition? a. Sensors b. Surveys c. Web Scraping d. System Hacking	1
xiii.	Which type of graphical representation suits best for continuous type of data like monthly exam scores of a student?	1

xiv.	Assertion(A) : Neural networks are the backbone of deep learning algorithms Reason(R): Neural networks use vast amounts of data 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	
xv.	 Identify the algorithm based on the given graph (a) Dimensionality reduction (b) Classification (c) Clustering (d) Regression	1

SECTION B: SUBJECTIVE TYPE QUESTIONS

Q. 3	**Answer the given 3 questions on Employability Skills (2 x 3 = 6 marks)** **Answer each question in 20 – 30 words.**	

(i)	Enlist any two methods to protect our data on the computer.	2
(ii)	List 2 barriers to communication.	2
(iii)	Write four signs that indicate that your computer is infected with virus.	2

Q4.	**Answer any 7 out of given 8 questions: (7x2 = 14)**	
(i)	How do you understand whether a machine/application is AI based or not? Explain with the help of an example.	2
(ii)	If you do an image search for vacations on a popular search engine, the first few searches mostly return the picture of beaches. What is the concern here? Explain.	2
(iii)	Suhana works for a company wherein she was assigned the task of developing a project using AI project cycle. She knew that the first stage was scoping the problem. Help her list the remaining stages that she must go through to develop the project.	2
(iv)	What are the different types of sources of data from where we can collect reliable and authentic datasets? Explain in brief.	2
(v)	Mention four examples of artificially intelligent applications in our smartphones.	2
(vi)	For a healthcare organization's objective of predicting disease outbreaks and efficiently allocating resources through the analysis of medical records, would you recommend using supervised learning or unsupervised learning as the preferred machine learning approach? Explain your choice briefly.	2
(vii)	What are the different tasks performed in Computer Vision for single and multiple objects?	2
(viii)	Differentiate between supervised and unsupervised learning.	2

5.	**Answer any 3 out of the given 4 questions in 50– 80 words each (3 x 4 = 12 marks)**	
Q. 13	Ashwat is amazed to learn about his sister Ananya who is multi-talented and has excelled in academics, music, dancing, sports and painting. He was quite curious when Ananya told him that he too possessed all these intelligences like every human being does, but only at different levels. He wondered which intelligence she was talking about. Can you help Ashwat in learning about different types of intelligences by naming and explaining any four types of intelligences?	4

Q. 14	Samarth attended a seminar on Artificial Intelligence and has now been asked to write a report on his learnings from the seminar. Being a non-technical person, he understood that the AI enabled machine uses data of different formats in many of the daily based applications but failed to sync it with the right terminologies and express the details. Help Samarth define Artificial Intelligence, list the three domains of AI and the data that is used in these domains.	4
Q. 15	Neural networks are said to be modeled the way how neurons in the human brain behave. A similar system is mimicked by the AI machine to perform certain tasks. Explain how neural networks work in an AI model and mention any three features of Neural Networks.	4
Q. 16	Draw the 4Ws problem canvas and explain each one of them briefly.	4