



Indian School Al Wadi Al Kabir

Mid Term Examination 2024-25 ARTIFICIAL INTELLIGENCE (417) SET 1

Class: X
Date: 29-09-2024

Max Marks: 50
Time: 2 Hours

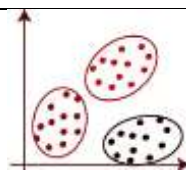
General Instructions:

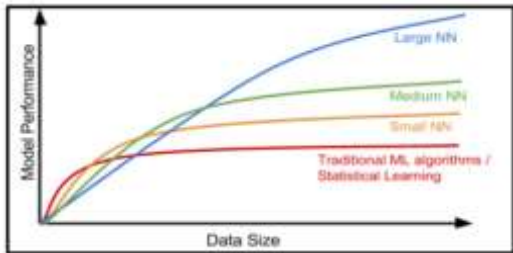
1. Please read the instructions carefully.
2. This Question Paper consists of **21 questions** in two sections: Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. **Out of the given (5+16=) 21 questions, a candidate has to answer (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 5 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

1	Answer any 4 out of 6 questions from Employability skills	
i	Which of the following is not an imperative sentence? (a) Read a lot to improve your writing skills. (b) Don't shout. (c) Clean your room. (d) What kind of movies do you like?	1
ii	Statement 1: Self-motivation teaches us self-discipline and hard work to achieve our goals. Statement 2: Individuals experience increased anxiety and boredom when they motivate themselves. (a) Both Statement 1 and Statement 2 are correct. (b) Both Statement 1 and Statement 2 are incorrect. (c) Statement 1 is correct but Statement 2 is incorrect. (d) Statement 1 is incorrect but Statement 2 is correct.	1

iii	According to a study conducted at a startup, workers were excited when they started their jobs. But, after a few years, the manager saw an increase in employee absenteeism due to illnesses such as back pain, sleep disorders, headaches as well as increased employee attrition due to long working hours, high workload, tight deadlines, high targets and a lack of job security. Which of the following techniques should the owner use to deal with this situation? (a) Internal motivation (b) Stress management (c) Work independently (d) Violent behavior	1
iv	Which of these is NOT an appropriate non-verbal communication at work? (a) Keeping hands in pockets while talking (b) Talking at moderate speed (c) Sitting straight (d) Tilting head a bit to listen	1
v	Ravi works hard to get the best student award at the end of year. What type of motivation is this? (a) Internal (b) External (c) Both internal and external (d) Not any specific type of motivation	1
vi	What is the origin of the word 'communication'? (a) From the Greek word "communis" meaning 'common' (b) From the Latin word "commūnicāre" meaning 'to share' (c) From the French word "communiqué" meaning 'to exchange' (d) From the Sanskrit word "sambandha" meaning 'relation'	
2	Answer any 5 out of 6 questions from subject specific skills	
i	“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. (a) Spatial visual intelligence (b) Naturalist Intelligence (c) Kinesthetic Intelligence (d) Existential Intelligence	1
ii	_____ is a research method used for collecting data from a predefined group of respondents to gain information and insights into various topics of interest. (a) Web scrapping (b) Interviews (c) Surveys (d) Observations	1
iii	_____ help us to find the relationship between the elements of the problem which we have scoped. (a) 4W problem canvas (b) Problem statement template (c) Structured data (d) Data visualization tools	1
iv	Identify the algorithm based on the given graph (a) Dimensionality reduction (b) Classification (c) Clustering (d) Regression	1
v	Identify the incorrect statement(s) from the following: (i) Deep learning is a subset of Machine Learning	1



	(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)																					
vi	What does CSV stand for? (a) Comma separated values (b) Computer spreadsheet values (c) Centralized storage volumes (d) Compressed structured variables	1																				
3	Answer any 5 out of 6 questions from subject specific skills																					
i	Smita is working on a project that involves over a lakh of records. Which of the following should she use to make the best project? (a) Traditional programming (b) Manual processing (c) IoT (d) Neural networks	1																				
ii	Which of the following is the type of data used by data science applications? (a) Images (b) Numerical data (c) Alpha Numeric data (d) Text and Speech	1																				
iii	_____ the neural network, better is the performance. 	1																				
iv	Which Python package helps in accessing structured data (in tabular form)? (a) CSV Reader (b) Spreadsheet Parser (c) SQL Integrator (d) Pandas																					
v	Match the following table A and B <table data-bbox="295 1532 1257 1787"><tr><th colspan="2">A</th><th colspan="2">B</th></tr><tr><td>1)</td><td>Regression</td><td>A</td><td>Unsupervised Learning</td></tr><tr><td>2)</td><td>Clustering</td><td>B</td><td>Supervised Learning</td></tr><tr><td>3)</td><td>Classification</td><td></td><td></td></tr><tr><td>4)</td><td>Dimensionality reduction</td><td></td><td></td></tr></table>	A		B		1)	Regression	A	Unsupervised Learning	2)	Clustering	B	Supervised Learning	3)	Classification			4)	Dimensionality reduction			
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vi	Which is not a parameter in evaluation stage (a) F1 Score (b) Precision (c) Recall (d) Spreadsheet																					

4	Answer any 5 out of 6 questions from subject specific skills	
i	Which of the following is an application of data science? (a) Text summarization (b) Target Advertisements (c) Face lock in smartphones (d) Email filters	
ii	How does AI contribute to the field of Data Science? (a) It makes data collection easier and faster. (b) It provides predictions and suggestions based on collected data. (c) It eliminates the need for human involvement in analyzing data. (d) It enhances technological knowledge for data collection.	
iii	Which of the following information will be collected when you open the newly downloaded app on your mobile? (a) Contact, Location, Camera, Storage (b) Only contact and Camera (c) Only Location and Storage (d) Any of the above depends on the app	
iv	The Machine is said to be intelligent if, (a) it collects data. (b) it understands data (c) it analyses data (d) all of the above	
v	_____ refers to developing algorithms, also called models which can be trained to get intelligent outputs. (a) Evaluation (b) Modelling (c) Data exploration (d) Problem scoping	
vi	An air conditioner can be turn on and off remotely with the help of internet but still needs a human touch. This is an example of _____ (a) Artificial Intelligence (b) Internet of things (c) Machine Learning (d) Deep Learning	
5	Answer any 5 out of 6 questions from subject specific skills	
i	_____ enable machines to learn by themselves using the provided data and make accurate Predictions/ Decisions. (a) Machine Learning (b) Artificial Intelligence (c) Deep Learning (d) None of these	
ii	Which of the following is the suitable format for storing tabular dataset? (a) portable document format (b) Spreadsheet (c) MS word (d) None of these	
iii	_____ is a visualization library in Python for 2D plots of arrays. (a) pandas (b) numpy (c) matplotlib (d) SciPy	

iv	Which of the following contributes to the efficiency of the AI project? (a) High model complexity (b) Relevant and Authentic training data (c) Minimal preprocessing (d) Limited hardware resources	
v	Which of the following represent a machine that is smart but not considered as Artificial Intelligence (AI) enabled.? (a) A robotic vacuum cleaner that can navigate and clean the floor autonomously (b) A chatbot that engages in Natural language conversations and answer questions (c) A smart phone with facial recognition for unlocking the device. (d) A digital alarm clock that rings at a set time every morning.	
vi	_____ is a concept to unify statistics, data analysis, machine learning and their related methods in order to understand and analyses actual phenomena with data. (a) Computer Vision (b) Natural Language Processing (c) Data Science (d) Computer Science	

SECTION B: SUBJECTIVE TYPE QUESTIONS

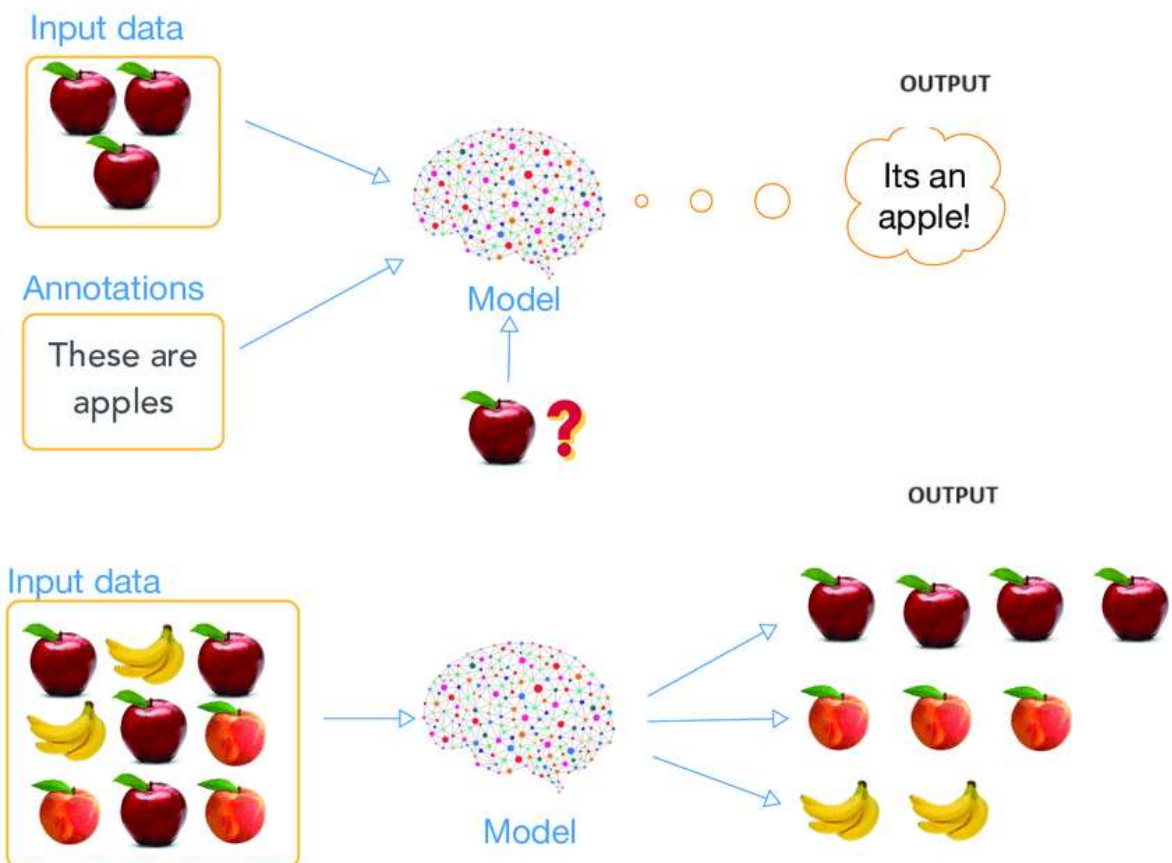
Answer any 3 out of the given 5 questions on employability skills in 20 – 30 words.(2 x 3 = 6 marks)

Q. 6	The method of communication that you choose could affect the relationship with your peers, superiors, and customers. Write the four factors on the basis of which you can choose the right method of communication.	2
Q. 7	What is the importance of time management in effectively dealing with stress? Provide any one strategy for improving time management skills to reduce stress.	2
Q. 8	Feedback is the final component and one of the most important factors in the process of communication. Give two reasons to justify why feedback is important.	2
Q. 9	In SMART goals, what does 'R' stand for? Explain.	2
Q. 10	All people look forward to vacations for de-stressing and rejuvenation. State any other two ways by which people can manage stress.	2

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

Q. 11	Differentiate between what is AI and what is not AI with the help of an example?	2
Q. 12	How intelligent robots are helping us in accomplishing dangerous jobs?	2
Q. 13	Define Rule based and Learning based approaches of AI modelling.	2
Q. 14	List down the four features of Artificial neural network.	2
Q. 15	Write notes on any one python packages which is used for Mathematical and logical operations on arrays in Python.	2
Q. 16	Shreya is collecting data for her AI project. What all points she should consider before collecting data?	2

Answer any 3 out of the given 5 questions in 50– 80 words each (3x 4 = 12 marks)

Q. 17	Your sister watches you use AI applications. She wants to understand more about it. Help her understand the term artificial intelligence by giving the right definition and explain to her with an example how machines become artificially intelligent.	4
Q. 18	Nithya wants to learn how to scope the problem for an AI Project. Explain him the following: (a) 4W Problem Canvas (b) Problem Statement Template	4
Q. 19	Neural networks are said to be modelled 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 draw the structure of Artificial Neural Network.	4
Q. 20	Identify and explain the learning models shown in the picture 	4
Q. 21	Explain the following a. Kinesthetic intelligence b. Spatio -Visual Intelligence c. Existential Intelligence d. Intra-personal Intelligence	4

***** ALL THE BEST *****