



# INDIAN SCHOOL AL WADI AL KABIR

## FINAL EXAMINATION 2023-24 ARTIFICIAL INTELLIGENCE (417)

**Class: IX**  
**Date: 29-2-2024**

**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 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.

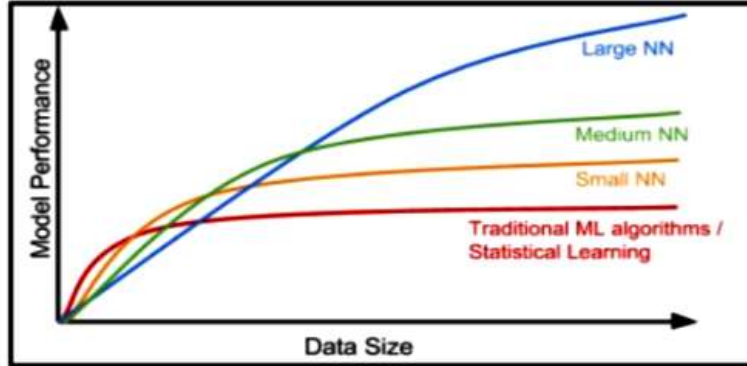
## SECTION A: OBJECTIVE TYPE QUESTIONS

<b>Q. 1</b>	<b>Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)</b>	
i.	Which of these sentences use uppercase letters incorrectly? a) I am Hungry. b) Divya and Sunil are reading. c) The bucket is full of water. d) She lives in Delhi.	<b>1</b>
ii.	.....people are able to recognize their strengths and accept weaknesses at the same time. a) Arrogant b) Unconfident c) Self-confident d) Negative	<b>1</b>
iii.	What is the best way to start our day positively? a) Think about all your accomplishment so far and feel good about it. b) Think about all that can go wrong. c) Think about the difficult test you will face during the day. d) Think about the traffic on the road and feel stressed.	<b>1</b>
iv.	Put the following units of storage into the correct order, starting with the smallest unit first and going down to the largest unit: (a) Kilobyte (b) Byte (c) Megabyte (d) Terabyte (e) Gigabyte (f) Bit Give your answer from the following code: a) (f) -> (b) -> (a) -> (c) -> (d) -> (e) b) (f) -> (b) -> (a) -> (d) -> (e) -> (c) c) (f) -> (b) -> (a) -> (d) -> (c) -> (e) d) (f) -> (b) -> (a) -> (c) -> (e) -> (d)	<b>1</b>
v.	Fill in the blanks. State the type of business — product, service or hybrid a) Arun bakery, which makes and sells bread to people. _____ b) Ram's repair shop, which repairs motorcycle. _____ c) Hari's hair-salon, where he cuts hair for women and men. _____ d) Petrol station, where the workers fills the petrol for customer vehicle. _____	<b>1</b>
vi.	To protect and conserve the environment we should adopt: a) white economy b) black economy c) red economy d) green economy	<b>1</b>
<b>Q. 2</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>	
i.	Artificial Intelligence can be used in which of the following fields? a) Speech Recognition b) Natural Language Processing c) Vision Systems d) All of the above	<b>1</b>
ii.	A large event management company has developed an AI system that recruits event hosts. It was found that the model discriminated against men. This is an example of _____ (a) AI access (b) AI Bias (c) AI Discrimination (d) Gender Discrimination	<b>1</b>

iii. In a decision tree, the final node which does not split into sub nodes is called?  
 a) Interior Node  
 b) Exterior Node  
 c) Terminal Node  
 d) Root Node

1

iv. Observe the given graph and fill in the blank: \_\_\_\_\_ the neural network, better is the performance.



1

v. What output given by the following Python code?  
 SP = 3126  
 CP = 2500  
 x = SP - CP  
 if x > 0:  
     print('Profit gain')  
 else:  
     print('Loss suffer')

1

vi. Match column A with Column B

Column A	Column B
1. Problem Scoping	A. Implement a suitable model that matches the requirements
2. Data Acquisition	B. Interpret some useful information out of data
3. Data Exploration	C. Collect data from reliable sources
4. Modelling	D. Finalize the aim of the AI project

a) 1 -> B; 2 -> A; 3 -> D; 4 -> C  
 b) 1 -> D; 2 -> B; 3 -> C; 4 -> A  
 c) 1 -> D; 2 -> C; 3 -> B; 4 -> A  
 e) 1 -> C; 2 -> D; 3 -> A; 4 -> B

1

**Q.3** Answer any 5 out of the given 6 questions (1x5=5 marks)

i. Match Column A with Column B:

Column A	Column B
1. Face recognition machine	(i) Not AI
2. Automatic door	(ii) AI
3. Gesture recognition	
4. Automatic toy car	

(a) 1 -> (i) ; 2 -> (ii) ; 3 -> (i) ; 4 -> (ii)  
 (b) 1 -> (ii) ; 2 -> (i) ; 3 -> (ii) ; 4 -> (i)  
 (c) 1 -> (i) ; 2 -> (i) ; 3 -> (ii) ; 4 -> (i)  
 (d) 1 -> (ii) ; 2 -> (i) ; 3 -> (i) ; 4 -> (ii)

1

ii. \_\_\_\_\_ refer to the features of data that we want to collect.

1

iii.	_____ helps us to summarize all the key points into one single Template so that in future, whenever there is need to look back at the basis of the problem, we can take a look at the this and understand the key elements of it. a) 4W Problem canvas b) Problem Statement Template c) Data Acquisition d) Algorithm	1
iv.	Identify the SDG from picture a) Life on land b) Gender Equality c) Quality Education d) Clean water and sanitation	1
v.	Which of the following is the correct extension of the Python file? a) .python b) .pl c) .py d) .p	1
vi.	An _____ is a name given to entities like class, functions, variables etc a) Keyword b) Identifier c) Comments d) None of the above	1
<b>Q.4</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>	
i.	DeepMind AI technology was created by _____ a) Google b) Infer vision c) BBC d) IBM Watson	1
ii.	The data which contains information related to geographical location and time is considered as _____ a) Time stamped data b) Real time data c) Spatiotemporal data d) Machine data	1
iii.	_____ graph uses either horizontal or vertical bars to categorize and compare different quantities. a) Line graph b) Bar graph c) Pie chart d) Histogram	1
iv.	Shalabha is preparing a model which will organize the unlabeled input data into groups' based on the features. Which type of model she can use? a) Regression b) Classification c) Clustering d) Dimensionality reduction	1



v.	What is the output of the given python statements i) print(100 % 2) ii) print(100/2) a) i)0 ii)0 b) i)50.0 ii)0 c) i)0 ii)50.0 d) i)0 ii)50	1
vi.	Find the output of given program. (1) L1 = ["John", 102, "USA"] (2) T2 = ("Apple", "Banana", "Orange") print(type(L1)) print(type(T2))	1
<b>Q.5</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>	
i.	The game mystery Animal is based on _____. (a) Computer Vision (b) Data Science (c) Natural Language Processing (d) None of these	1
ii.	Deep Learning is the subset of Artificial Intelligence, Machine Learning and Data Science. True/False?	1
iii.	_____ are the people who face this problem and would be benefitted with the solution a) Programmers b) Web Scrappers c) Developers d) Stakeholders	1
iv.	Evaluation stage follows _____ stage and in it, the desired model is trained with training data set and ready for testing with the help of testing data set. a) Problem scoping b) Modelling c) Data Exploration d) Data aquisition	1
v.	Divya was learning neural networks. She understand that there were three layers in a neural network. Help her to identify the layer that does processing in the neural network. a) Input layer b) Output layer c) Hidden layer d) Data layer	1
vi.	In python programming language _____ is a named location used to store data in the memory. a) Statement b) Identifier c) Variable d) Data type	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	What are the elements of communication?	2
Q. 7	List down any four tips for building self – confidence?	2
Q. 8	Differentiate between RAM and ROM in computer.	2
Q. 9	Explain the four steps of entrepreneurship development process?	2
Q. 10	List down any four types of natural resources available with two examples?	2

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

Q. 11	The AI access is a set of ethical concerns related to the adoption of AI systems. List down the concerns mentioned here.	2
Q. 12	Define Artificial Intelligence.	2
Q. 13	Explain any four data sources in data acquisition stage.	2
Q. 14	Draw the problem statement template used in AI project cycle	2
Q. 15	Define the following with example a)keyword b)Identifier	2
Q. 16	Explain String in Python with the help of example.	2

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

Q. 17	Jagan attend 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 technologies and express the details. Help Jagan to list the three domains of AI and the data that is used in these domains.	4
Q. 18	Differentiate between rule-based and learning-based AI modelling approaches.	4
Q. 19	Niveta is undergoing Basics of AI training and also about Neural network. She asked to submit the assignment on Neural Network. Suggest her to write on how neural networks work in an AI model and any three features of Neural Networks.	4
Q. 20	Differentiate between Artificial Intelligence vs Machine Learning vs Deep Learning.	4
Q. 21	Write a Python program to perform arithmetic addition, subtraction, multiplication and division. The input data is to be entered by the user.	4

\*\*\*\*\*BEST WISHES\*\*\*\*\*