

HALF YEARLY EXAMINATION, 2024-25

ARTIFICIAL INTELLIGENCE

Time – 2:00 Hrs.

Class – XI

M.M. : 50

Date – 12.09.2024 (Thursday)

Name of the student _____ Section _____

GENERAL INSTRUCTIONS:

- Please read the instructions carefully.
- This Question Paper consists of **29** questions in four sections –A, B, C & D.
- Section A and B are **Objective type** questions
- Section C contains **Short Answer type** questions.
- Section D contains **Long Answer type** questions.
- All questions of a particular section must be attempted in the correct order

SECTION - A

Multiple Choice Questions.

(1x14=14)

- Q1 _____ is a descriptive summary of a dataset through a single value that reflects the centre of the data distribution.
a) Regression b) Correlation c) Central tendency d) None of these
- Q2 Facts simply present _____
a) Data b) Story c) Conflict d) Character
- Q3 _____ are drawn on a natural scale in which the representative frequencies of the different class of values are represented through vertical rectangles drawn close to each other.
a) Histograms b) Scatter Plots c) Bar Graphs d) None of these
- Q4 _____ is a set of numbers arranged in rows and columns so as to form a rectangular array.
a) Vectors b) Matrix c) Determinant d) Set
- Q5 _____ of matrix creates a new matrix with number of rows and columns flipped
a) Inverse b) Determinant c) Transpose d) Scalar
- Q6 Erroneous assumptions in the machine learning process leads to _____.
a) AI ethics b) Machine Learning c) Supervised Learning d) AI bias
- Q7 Which join returns all records from the left table, and the matching records from the right table
a) Full Join b) Inner Join c) Right Outer Join d) Left Outer Join
- Q8 The more you use and train these chatbots, the more they will learn and the better they will work with the user. We are talking about _____.
a) Rule-based chatbot. b) Flowcharts c) Any chatbot d) AI chatbot
- Q9 What is the purpose of communication?
a) Inform (tell someone about something)
b) Influence (get someone to do something you want)
c) Share thoughts, ideas, feelings
d) All of the above

- Q10 Which of these is a positive facial expression?
a) Staring hard b) Nodding while listening
c) Wrinkled forehead d) Looking away from the speaker
- Q11 _____ refers to knowing one's potential by examining and analyzing intellectual and spiritual capacities.
a) Self-management b) Grooming c) Intelligence d) Self-exploration
- Q12 You have just finished attending a class in a biology lab. You have to go back to your classroom for other classes. After the lab, should you wash your hands?
a) Not really, you did not use the washroom as such.
b) You can just clean your hands under running water.
c) You should follow your hand-wash routine — wash, rinse and dry.
d) None of these
- Q13 Which of the given options can you add to a Header or Footer?
a) Page Number b) Date c) Title d) All of these
- Q14 _____ is not an alignment option in Open Office Writer
a) Left b) Right c) Squeeze d) Centre

SECTION - B

Multiple Choice Questions

(2x4=8)

- Q15 The following question consist of two statements: Assertion (A) and Reason (R).
- Assertion (A):** Statistics show that 35% of Amazon's revenue Comes from using recommendation engines
- Reason (R):** The recommendation engine behaves like a smart and experienced salesperson who understand user's needs, tastes, and requirements and can make informed decisions about recommendations that are beneficial and relevant to the customer's needs thereby increasing the buying rate.
- Answer the question selecting the appropriate option given below
- a) Both A and R are true and R is the correct explanation of A
 - b) Both A and R are true and R is not the correct explanation of A
 - c) A is true but R is false.
 - d) None of the above
- Q16 **Assertion (A) :** Kuki is an AI-based chatbot.
- Reason (R) :** Although training takes longer in the beginning, AI chatbots save lot of time in the long run.
- Answer the question selecting the appropriate option given below
- a) Both A and R are true and R is the correct explanation of A
 - b) Both A and R are true and R is not the correct explanation of A
 - c) A is true but R is false.
 - d) A is false but R is true.

Q17 What will be the order of the product matrix after multiplying the following?

$$\begin{bmatrix} 2 & -3 & 4 \\ 3 & 6 & -1 \end{bmatrix} \times \begin{bmatrix} 2 & 5 \\ -1 & 0 \\ 4 & -2 \end{bmatrix}$$

- a) $\begin{bmatrix} 23 & 2 \\ -4 & 17 \end{bmatrix}$
b) $\begin{bmatrix} 23 & 2 \\ 4 & -17 \end{bmatrix}$
c) $\begin{bmatrix} 23 & -4 \\ 2 & 17 \end{bmatrix}$
d) $\begin{bmatrix} 13 & 2 \\ -14 & 17 \end{bmatrix}$

Q18 Example two real world applications of supervised learning are 1)_____, 2)_____

SECTION - C

Short Answer Type Question

(2x8=16)

Q19 Define Time management. Explain a few Time management strategies.

Q20 Write short cut key of following

- a) Close a document b) Print c) Copy d) Centre Alignment

Q21 What are the sources of AI bias? Explain.

Q22 What is CV and what are the uses of CV in AI

Q23 What is Central Tendency? What are the methods used to calculate Central Tendency?

Q24 Define Variance and Standard Deviation

Q25 Explain Artificial Neural Networks (ANN).

Q26 What are the application of Machine Learning?

SECTION-D

Long Answer Type Question

(4x3=12)

Q27 Explain any four algebra operation

Q28 What is NLP? Explain different types of application of NLP(four)

Q29 What is mean? Calculate the median of the following grouped data stepwise.

Marks	No. of student
0-10	8
10-30	20
30-60	36
60-80	24
80-90	12

