

Model Test Paper-1

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

1. Answer any 4 out of the given 6 questions on Employability Skills. (1 × 4 = 4 marks)
 - (i) is an aspect of non-verbal communication where physical gestures are used. **1**

a) Body language	<input type="radio"/>	b) Feedback	<input type="radio"/>
c) Culture	<input type="radio"/>	d) Feelings	<input type="radio"/>
 - (ii) means managing yourself with the people and resources around you. **1**

a) Self-Motivation	<input type="radio"/>	b) Self-Confidence	<input type="radio"/>
c) Self-Control	<input type="radio"/>	d) Self-Management	<input type="radio"/>
 - (iii) refers to trusting one's capabilities and potentialities to achieve the necessary goals, objectives and challenges in life and being worthy of leading a happy life. **1**

a) Self-Motivation	<input type="radio"/>	b) Self-Confidence	<input type="radio"/>
c) Self-Control	<input type="radio"/>	d) Self-Management	<input type="radio"/>
 - (iv) The controls the flow of data from the input devices to memory and from memory to output devices. **1**

a) RAM	<input type="radio"/>	b) Monitor	<input type="radio"/>
c) CPU	<input type="radio"/>	d) Printer	<input type="radio"/>

(v) _____ is the process of strengthening the skills and knowledge of budding and existing entrepreneurs by hand holding them during their entrepreneurial journey. **1**

- a) Innovation b) Entrepreneurship development
c) Economic development d) Social development

(vi) Expand the term CNG. **1**

- a) Common Natural Gas b) Costly Natural Gas
c) Compressed Nature Gas d) Compressed Natural Gas

2. Answer any 5 out of the given 6 questions (1 × 5 = 5 marks)

(i) Which of the following is not a Sustainable Development Goals? **1**

- a) Zero Hunger b) No Gadget
c) Good Health & Well Being d) Quality Education

(ii) The Member States of the United Nations have agreed to achieve _____ SDGs by 2030. **1**

- a) 16 b) 20
c) 10 d) 17

(iii) Price comparison websites falls under which category? **1**

- a) NLP b) Computer Vision
c) Data Science d) Machine Learning

(iv) Which among the following is a system of Programs and Data-Structures that mimics the operation of the human brain? **1**

- a) Intelligent Network b) Decision Support System
c) Neural Network d) Genetic Programming

(v) The job of _____ layer is to acquire data and feed it to the Neural Network. No processing occurs in this layer. **1**

- a) Input b) Hidden
c) Butput d) Last

(vi) Which of the following is not part of the 4Ws framework? **1**

- a) Which b) Who
c) What d) Why

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

(i) Name any 2 sources for collecting data. **1**

- a) Surveys and Rumours b) AI models and applications
c) Imagination and Thoughts d) Web scraping and sensors

(ii) In a system map, if an arrow goes from X to Y with a –(minus) sign, what does this mean? **1**

- a. If X increases, Y decreases b) The direction of relation is opposite
c. If X increases, Y also increases d) It is a bi-directional relationship

(iii) Who is the father of Artificial Intelligence? **1**

- a) John McCarthy b) Mark Zukerberg
c) Alan Turing d) Nick Bostrom



(iv) Name any one disadvantage of AI.

- a) Increased Automation
c) Smart Decision Making

- b) Increased Productivity
d) Expensive Technology

1

(v) In classification, you teach the machine to perform with what kind of data?

- a) Labelled
c) Complex

- b) Large
d) Continuous

1

(vi) Which of the following carries the signal from the brain or spinal cord to the organs, glands or muscles to carry out voluntary or involuntary movement?

- a) Sensory neuron
c) Interneuron

- b) Motor neuron
d) Neuron

1

4. Answer any 5 out of the given 6 questions.

(1 × 5 = 5 marks)

(i) For any AI project to be efficient, the training data should be

1

- a) Relevant
c) Small

- b) Fast
d) Inefficient

(ii) Data features refer to the of data you want to collect.

1

- a) Relevance
c) Type

- b) Size
d) Size

(iii) is a rule-based AI model which helps the machine in predicting what an element is with the help of various decisions (or rules) fed to it.

1

- a) Decision Trees
c) Deep learning

- b) Machine learning
d) Regression

(iv) is a program that allows the computer to simulate conversation with a human being.

1

- a) Chatbot
c) Virtual Reality

- b) Augmented Reality
d) Internet of Things

(v) are loosely modelled after how neurons in the human brain behave.

1

- a) Neural networks
c) Artificial networks

- b) Biological networks
d) Wireless networks

(vi) Autonomous Weapons are also known as

1

- a) Killer Robots
c) Micro Robot

- b) Automatic Robots
d) All of these

5. Answer any 5 out of the given 6 questions.

(1 × 5 = 5 marks)

(i) A self-driving car identifies objects in front of it using domain of AI.

1

- a) Computer Vision
c) NLP

- b) Data Science
d) Data Mining

(ii) is the aim of GOAL 13 of the SDGs.

1

- a) Climate Action
c) Life on Land

- b) Life Below Water
d) Gender Equality

- (iii) is the starting node in a decision tree. 1
- a) Leaf node b) Branch node
- c) Root node d) Decision node
- (iv) Each node of the hidden layer has its own algorithm which it executes on the data received by the input layer. 1
- a) Machine learning b) Machine fed
- c) Rule based d) AI
- (v) model works on continuous data. 1
- a) Classification b) Regression
- c) Modularisation d) Reinforcement
- (vi) does not come under Data Acquisition. 1
- a) Sources of data b) 4Ws problem canvas
- c) Data features d) Web Scraping

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 3 out of the given 5 questions on Employability Skills.

(2 × 3 = 6 marks)

6. Mention any 2 advantages of written communication. 2
7. Mention any 2 benefits of self-management. 2
8. What is an operating system? Give 2 examples of an operating system. 2
9. Mention any 2 challenges of Entrepreneurship. 2
10. State any 2 basic components of a Green Economy. 2

Answer any 4 out of the given 6 questions in 20–30 words each.

(2 × 4 = 8 marks)

11. Mention any 2 advantages of using AI. 2
12. State the ways in which you can collect data. 2
13. Name any 4 data visualization techniques. 2
14. What is a Learning Based AI Model? Explain with an example. 2
15. Mention 2 points to remember while making a decision tree. 2
16. What is Clustering? Give an example. 2

Answer any 3 out of the given 5 questions in 50–80 words each.

(4 × 3 = 12 marks)

17. Explain the different features of Neural Networks. 4
18. Explain the 3 domains of AI. 4
19. Consider the following scenario/ situations: 4
 An IT company received a lot of support tickets for their operations. These tickets are categorized into Urgent, Important and Business as usual. The issue faced by the operations is that they are not able to classify them properly which leads to delay in response.
 Can you think of a classification system to solve this problem? Create a 4W Project Canvas for this purpose.
20. What are the differences between Rule based approach and Machine Learning approach. 4
21. Explain the various stages involved in AI project cycle. 4

