UNIVERSITY OF CALCUTTA · Previous Year Question Paper

2024

ARTIFICIAL INTELLIGENCE — HONOURS

Paper: SEC-2.2

(Artificial Intelligence)

Full Marks: 50

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The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Answer *any twenty-five* questions. 2×25

1. What is Artificial Intelligence?

(A) It is a field that aims to make humans more intelligent.

(B) It is a field that aims to improve the security.

(C) It is a field that aims to develop intelligent machine.

(D) It is a field that aims to mine the data.

2. Who is the inventor of Artificial Intelligence?

(A) Geoffrey Hinton (B) Andrew Ng

(C) John McCarthy (D) Jürgen Schmidhuber.

3. The different types of machine learning are

(A) Supervised Leaning (B) Unsupervised Learning

(C) Reinforcement Learning (D) All of these.

4. The proposition symbols in AI are

(A) True and False (B) True, False and Null

(C) True (D) False.

5. What are the different types of AI approaches?

(A) Strong approach (B) Weak approach

(C) Applied approach (D) All of these.

6. What is 'state space' in AI?

(A) Collection of all the problem states

(B) A specific problem states out of all problem states

(C) Both (A) and (B)

(D) None of these.

7. Which of the following is not a type of AI?

(A) Weak AI (B) Theory of mind

(C) Reactive machines (D) All of these.

8. Which of the following is not an application of AI?

(A) Computer Vision (B) Natural Language Processing
(C) Database Management System (D) Digital Assistants.

9. What is a neural network primarily inspired by?
(A) The human brain (B) The internet
(C) Quantum computing (D) Cellular automata.

10. AI is associated with computers of which generation?
(A) Second (B) First
(C) Fifth (D) Third.

11. Which of the following is the common programming language for AI?
(A) Python (B) Java
(C) Lisp (D) PHP.

12. How can we achieve Artificial Intelligence in real life?
(A) Machine learning (B) Deep learning
(C) Both (A) and (B) (D) None of these.

13. A technique that was developed to determine whether a machine could or could not demonstrate the AI is known as
(A) Boolean Algebra (B) Turing Test
(C) Logarithm (D) Algorithm.

14. What is the goal of unsupervised learning?
(A) To label data (B) To classify data
(C) To find hidden patterns in data (D) To predict future events.

15. As human can see things, analyse them, and then take required action based on what they see which of the following helps machine to perform similar kind of task?
(A) Data Science (B) Natural Language Processing
(C) Computer Vision (D) Camera Vision.

16. Which of the following app uses computer vision?
(A) Instagram (B) WhatsApp
(C) Telegram (D) All of these.

17. Natural language Processing is concerned with interactions between computers and human (natural) languages.
(A) True (B) Partially True
(C) False (D) Partially False.

18. Which deep learning model is often used for sequential data like text or time series?
(A) CNN (B) RNN
(C) SVM (D) GAN.

19. What is the main point of difference between human and machine intelligence?

(A) Human perceive everything as a pattern while machine perceive it merely as data.
(B) Human have emotions.
(C) Human have more IQ and intellect.
(D) Human have sense organs.

20. What was the name of the first model which can perform weighted sum of inputs?
(A) McCulloch-Pitts neuron model
(B) Marvin Minskey neuron model
(C) Hopfield model of neuron
(D) None of these.

21. Which task is not typically associated with NLP?
(A) Sentiment Analysis
(B) Image Classification
(C) Language Translation
(D) Speech Recognition.

22. Which of the following can look at X-Rays to detect diseases or small defects?
(A) Data and Statistics
(B) AI-assisted robotic surgery
(C) Image Analysis
(D) Virtual Nursing Assistant.

23. Which of the mentioned human behaviour does the AI aim to mimic?
(A) Thinking
(B) Eating
(C) Sleeping
(D) None of these.

24. Which machine learning method is used in situations where feedback is given after a sequence of actions?
(A) Supervised learning
(B) Unsupervised learning
(C) Reinforcement learning
(D) Transfer learning.

25. Operations in the neural networks can perform what kind of operations?
(A) Serial
(B) Parallel
(C) Serial or Parallel
(D) None of these.

26. Which of the following is a challenge in computer vision?
(A) Identifying objects in different lighting conditions
(B) Predicting stock prices
(C) Translating languages
(D) Classifying news articles.

27. What is 'overfitting' in machine learning?
(A) When the model performs well on training data but poorly on new data
(B) When the model is too simple to capture the complexity of the data
(C) When the model performs equally well on training and test data
(D) When the model is trained with too little data.

28. Which AI technique is particularly useful for tasks that require decision-making?
(A) Clustering
(B) Reinforcement Learning
(C) PCA
(D) Data Mining.

29. Which machine learning technique is used to reduce the number of features in a dataset?

(A) Clustering
(B) Regression
(C) Dimensionality Reduction
(D) Classification.

30. How does AI influence decision-making in modern systems?

(A) By following pre-programmed rules
(B) By analyzing vast amounts of data quickly
(C) By guessing outcomes
(D) By ignoring historical data.

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