

COMPUTER COMPETITIVE CHAPTER 14

-ENG PART-2- INTRODUCTION TO AI

Total points 50/50 ?

STUDENT NAME *

VIVA

✓ 1. Which AI technique is concerned with simulating human intelligence by processing large amounts of data and identifying patterns? *1/1

- ☐ a) Expert Systems
- ☒ b) Machine Learning
- ☐ c) Symbolic AI
- ☐ d) Robotics



✓ 2. What is a 'chatfuel' in the context of AI? *

1/1

- ☐ a) A fuel type for robots
- ☒ b) A platform for building chatbots
- ☐ c) A language for AI programming
- ☐ d) A type of data storage



✓ **3. Which AI technology is used to create realistic human-like faces and voices?** *1/1

- ☐ a) Computer Vision
- ☒ b) Generative Adversarial Networks (GANs)
- ☐ c) Natural Language Understanding
- ☐ d) Reinforcement Learning



✓ **4. What is the primary ethical concern related to AI development?** * 1/1

- ☐ a) AI becoming too slow
- ☐ b) AI making unbiased decisions
- ☒ c) Job displacement and ethical implications of autonomous systems
- ☐ d) Lack of available data



✓ **5. Which domain of AI focuses on enabling machines to learn and operate in uncertain environments?** *1/1

- ☒ a) Probabilistic Reasoning
- ☐ b) Deterministic AI
- ☐ c) Symbolic AI
- ☐ d) Rule-based AI



✓ **6. What is the term for an AI system's ability to "see" and interpret medical images for diagnosis?** *1/1

- ☐ a) Robotic Surgery
- ☐ b) Medical NLP
- ☒ c) Medical Image Analysis (Computer Vision in Healthcare) ✓
- ☐ d) Expert System for Prescription

✓ **7. Which concept describes an AI's ability to continually learn and adapt after deployment?** *1/1

- ☐ a) Static Learning
- ☒ b) Lifelong Learning / Continuous Learning ✓
- ☐ c) Batch Learning
- ☐ d) One-shot Learning

✓ **8. What is 'robotics' primarily focused on? *** 1/1

- ☐ a) Developing intelligent computer programs
- ☒ b) Designing, building, operating, and applying robots ✓
- ☐ c) Analyzing financial data
- ☐ d) Understanding human speech

✓ **9. Which AI technique involves finding the shortest path in a graph or network?** *1/1

- ☐ a) Clustering
- ☐ b) Regression
- ☒ c) Pathfinding Algorithms (e.g., A*)
- ☐ d) Classification



✓ **10. What is 'data preprocessing' in machine learning?** * 1/1

- ☒ a) The final step before deployment
- ☐ b) The process of preparing raw data for training an AI model
- ☐ c) The method of collecting data
- ☐ d) The way AI models store data



✓ **11. Which AI term describes an algorithm that searches through possible solutions to find the optimal one?** *1/1

- ☒ a) Search Algorithm
- ☐ b) Random Algorithm
- ☐ c) Sorting Algorithm
- ☐ d) Hashing Algorithm



✓ 12. What is a 'smart home' an example of AI in? *

1/1

- ☐ a) Only voice assistants
- ☒ b) Automation and IoT (Internet of Things)
- ☐ c) Advanced robotics
- ☐ d) Natural Language Processing



✓ 13. Which AI application helps in predicting future outcomes based on historical data?

*1/1

- ☐ a) Classification
- ☒ b) Regression (Predictive Analytics)
- ☐ c) Clustering
- ☐ d) Rule-based Systems



✓ 14. What is 'backpropagation' in neural networks? *

1/1

- ☐ a) A method for forward pass computation
- ☒ b) An algorithm for training neural networks by adjusting weights based on the error
- ☐ c) A technique for data compression
- ☐ d) A way to initialize network weights



✓ 15. Which AI technique is used in spam email detection? *

1/1

- ☐ a) Computer Vision
- ☐ b) Robotics
- ☒ c) Machine Learning (Classification)
- ☐ d) Game AI



✓ 16. What is 'GAN' in deep learning? *

1/1

- ☐ a) General Artificial Network
- ☒ b) Generative Adversarial Network
- ☐ c) Global Alignment Network
- ☐ d) Graphical Analytical Node



✓ 17. What is the purpose of a 'convolutional neural network' (CNN)? *

1/1

- ☐ a) Primarily for processing sequential data like text
- ☒ b) Highly effective for image and video processing
- ☐ c) Used for time-series forecasting
- ☐ d) Designed for symbolic reasoning



✓ **18. Which AI field deals with AI systems that can adapt and improve their performance over time?** *1/1

- ☐ a) Fixed AI
- ☒ b) Adaptive AI
- ☐ c) Static AI
- ☐ d) Pre-programmed AI



✓ **19. What is 'Reinforcement Learning' most similar to? *** 1/1

- ☐ a) Teaching a child by showing examples
- ☒ b) Teaching a child by giving rewards and punishments
- ☐ c) Organizing a child's toys
- ☐ d) Reading a book to a child



✓ **20. Which is a core component of a robot that allows it to interact with its environment?** *1/1

- ☐ a) CPU
- ☒ b) Sensor
- ☐ c) Hard Drive
- ☐ d) Monitor



✓ 21. What is 'Machine Translation' an application of? *

1/1

- ☐ a) Computer Vision
- ☐ b) Robotics
- ☒ c) Natural Language Processing (NLP)
- ☐ d) Expert Systems



✓ 22. What is a 'bias-variance dilemma' in machine learning? *

1/1

- ☒ a) The challenge of balancing model complexity to achieve good performance on both training and test data
- ☐ b) The problem of too much data
- ☐ c) The ethical issues in AI
- ☐ d) The speed of computation



✓ 23. Which AI concept involves machines creating new and original content (e.g., art, music, text)?

*1/1

- ☐ a) Analytical AI
- ☒ b) Generative AI
- ☐ c) Discriminative AI
- ☐ d) Predictive AI



✓ 24. What is 'Computer-Aided Diagnosis' (CAD) in medicine an example of? *1/1

- ☐ a) Robotics
- ☒ b) Machine Learning / Computer Vision
- ☐ c) NLP
- ☐ d) Expert Systems



✓ 25. What is the main purpose of 'data visualization' in AI and data science? *1/1

- ☐ a) To train models faster
- ☒ b) To make complex data understandable and reveal patterns
- ☐ c) To encrypt data
- ☐ d) To collect more data



✓ 26. Which of the following is a common challenge in AI development? * 1/1

- ☐ a) Too much computational power
- ☐ b) Lack of ethical guidelines
- ☐ c) Data scarcity and bias
- ☒ d) All of the above



✓ 27. What is 'speech recognition'? *

1/1

- ☒ a) Converting spoken words into text
- ☐ b) Converting text into spoken words
- ☐ c) Understanding the meaning of text
- ☐ d) Identifying different languages



✓ 28. Which AI technique would be best suited for recommending movies to a user based on their past viewing history? *1/1

- ☐ a) Computer Vision
- ☐ b) Reinforcement Learning
- ☒ c) Recommender Systems (Machine Learning)
- ☐ d) Robotics



✓ 29. What is 'fuzzy logic' in AI? *

1/1

- ☐ a) A type of binary logic
- ☒ b) A form of logic that deals with approximate reasoning and uncertainty
- ☐ c) Logic used in quantum computing
- ☐ d) A technique for precise calculations



✓ **30. What is the main advantage of 'deep learning' over traditional machine learning for complex tasks?** *1/1

- ☐ a) Requires less data
- ☒ b) Can automatically learn complex features from raw data
- ☐ c) Is faster to train
- ☐ d) Is simpler to implement



✓ **31. Which of these is a widely used programming language for AI, known for its extensive libraries?** *1/1

- ☐ a) Java
- ☐ b) C++
- ☒ c) Python
- ☐ d) PHP



✓ **32. What is a 'chatbot' often used for in customer service?** * 1/1

- ☐ a) Replacing all human agents
- ☒ b) Handling routine queries and providing instant support
- ☐ c) Analyzing customer emotions
- ☐ d) Making outbound sales calls



✓ 33. What is 'facial recognition'? *

1/1

- ☐ a) Identifying objects in a picture
- ☒ b) Identifying or verifying a person from a digital image or video frame
- ☐ c) Generating new faces
- ☐ d) Changing facial expressions



✓ 34. Which concept in AI relates to allowing machines to make decisions without human intervention? *1/1

- ☐ a) Manual Control
- ☒ b) Automation / Autonomy
- ☐ c) Supervised Operation
- ☐ d) Collaborative AI



✓ 35. What is a 'decision tree' in machine learning? *

1/1

- ☐ a) A type of neural network
- ☒ b) A flowchart-like structure used for classification or regression
- ☐ c) A data clustering algorithm
- ☐ d) A dimensionality reduction technique



✓ 36. What is the goal of 'computer game AI' *

1/1

- ☐ a) To make games easier to play
- ☒ b) To create intelligent and challenging non-player characters (NPCs)
- ☐ c) To design game graphics
- ☐ d) To optimize game performance



✓ 37. Which AI concept involves AI systems being able to reason about knowledge and facts?

*1/1

- ☒ a) Knowledge Representation
- ☐ b) Sensory Perception
- ☐ c) Motor Control
- ☐ d) Emotional Intelligence



✓ 38. What is 'Robotic Process Automation' (RPA)? *

1/1

- ☐ a) Using physical robots in factories
- ☒ b) Using software robots to automate repetitive, rule-based tasks in business processes
- ☐ c) Programming autonomous vehicles
- ☐ d) Designing human-like robots



✓ 39. What is 'data augmentation' in machine learning? *

1/1

- ☐ a) Collecting more raw data
- ☒ b) Creating new training examples from existing data by applying transformations
- ☐ c) Cleaning noisy data
- ☐ d) Reducing the size of the dataset



✓ 40. Which AI application uses AI to manage traffic flow in smart cities? * 1/1

- ☐ a) Smart Grids
- ☒ b) Intelligent Transportation Systems (ITS)
- ☐ c) Smart Buildings
- ☐ d) Autonomous Parking



✓ 41. What is 'machine ethics' in AI? *

1/1

- ☐ a) The ethical behavior of human developers
- ☒ b) The study of how to design AI systems that behave ethically
- ☐ c) The cost of developing AI
- ☐ d) The speed of AI algorithms



✓ 42. Which type of learning involves training a model with a small amount of labeled data and a large amount of unlabeled data? *1/1

- ☐ a) Supervised Learning
- ☐ b) Unsupervised Learning
- ☒ c) Semi-supervised Learning
- ☐ d) Reinforcement Learning



✓ 43. What is a 'generative model' in machine learning? * 1/1

- ☐ a) A model that predicts numerical values
- ☒ b) A model that learns the distribution of the data to generate new samples
- ☐ c) A model that classifies data into categories
- ☐ d) A model that only analyzes existing data



✓ 44. Which AI application is used in fraud detection in banking? * 1/1

- ☐ a) Robotics
- ☐ b) Natural Language Processing
- ☒ c) Machine Learning (Anomaly Detection/Classification)
- ☐ d) Computer Vision



✓ 45. What is 'Explainable AI' (XAI)? *

1/1

- ☐ a) AI that explains its own code
- ☒ b) AI that explains why it made a certain decision or prediction
- ☐ c) AI that explains complex concepts to humans
- ☐ d) AI that can teach itself



✓ 46. Which AI concept is about giving machines the ability to learn from examples without explicit rules?

*1/1

- ☐ a) Rule-based systems
- ☒ b) Inductive learning
- ☐ c) Deductive reasoning
- ☐ d) Pre-programmed intelligence



✓ 47. What is 'computer vision' often combined with in robotic applications?

*1/1

- ☐ a) Purely mechanical control
- ☐ b) Natural Language Processing
- ☒ c) Robotics (for perception and manipulation)
- ☐ d) Data Management



✓ 48. Which of the following describes 'Artificial General Intelligence' (AGI)? *1/1

- ☐ a) AI designed for one specific task
- ☒ b) AI with human-level cognitive abilities across a wide range of tasks ✓
- ☐ c) AI that is only good at math
- ☐ d) AI that learns from a fixed set of rules

✓ 49. What is 'superintelligence' in AI? * 1/1

- ☐ a) AI that is slightly smarter than a human
- ☒ b) AI that significantly surpasses human intelligence in virtually every field ✓
- ☐ c) AI that controls all computers
- ☐ d) AI that can only perform calculations faster

✓ 50. What is the "AI winter"? * 1/1

- ☐ A period of rapid AI advancements
- ☒ A period of reduced funding and interest in AI research ✓
- ☐ A season when AI systems perform poorly
- ☐ A new AI programming language

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