Pre-Board

M.M-50   Artificial Intelligence

Time- 120 mins

Class: - X

Section A

Note:- For objective type questions, write the complete Answer on your answer sheet, not just a,b,c,d.

Q1. Visual communication among the people are dependent on _____ .   (1)

   (a) Signs, symbols and pictures   (b) Text messages   (c) Posture   (d) Body language

Q2. Which of the following is the process in which the receiver interprets and understands the message? (1)

(a) Decoding   (b) Encoding   (c) Feedback   (d) None of these

Q3. _____ is not the quality of self-confident people.   (1)

   a)Dependent   b) Hard Working   c)Positive Attitude   d) Commitment

Q4.High expectations from self can leave with chronic anxiety and stress, thus leading to _____ stress.
(1)

   Physical   b) Emotional   c) Mental   d) Financial

Q5. Which ancient practice includes a series of postures and breathing exercises practiced to achieve control of body and mind ?   (1)

   a)Meditation   b)Physical Exercise   c) Listening music   d) Yoga

Q6. The Recycle Bin in Windows stores deleted files for how long?   (1)

a) Permanently deletes instantly   b) Stores temporarily until emptied

 c) Stores for 30 days only   d) None of the above

Q7. What does an operating system do?   (1)

a) Manages hardware and software resources   b) Helps to create documents

c) Provides antivirus protection   d) Manages internet speed

Q8. Entrepreneurs take —   (1)

a) Uncalculated risk   b) Calculated risk   c) No risk   d) Random risk

Q9. The money used to start a business is called —   (1)

a) Loan   b) Capital   c) Income   d) Profit

Q10. Which of the following practices contributes to sustainable development?   (1)

 a) Overuse of chemical fertilizers   b) Deforestation   c) Rainwater harvesting   d) Excessive industrialization

Q11. What is the main purpose of learning Green Skills?   (1)

 a) To increase fossil fuel usage   b) To support nature and grow the economy in a healthy way c)
To produce more industrial waste   d) To reduce jobs in environment-friendly fields

Q12. What does the term carbon footprint mainly refer to?   (1)

a) The carbon taken in by plants from the air   b)) Turning carbon into usable fuels

 c) The total greenhouse gases people release through their activities   d) The oxygen that trees produce

Q13. In Statistical Data, what is the primary function of the system in relation to data? (1)

a)Generating large datasets   b) Analyzing data to extract insights

c) Converting data into images   d) Distributing data across networks

Q14. What is the main goal of Computer Vision projects? (1)

a)Translating audio data into visual descriptions   b)Converting digital data into analogue signals

c)Teaching machines to understand textual information

d)Converting digital visual data into computer-readable language

Q15. What is the primary focus of NLP? (1)

a)Analyzing computer languages   b)Interacting between computers and humans using artificial language

c)Dealing with the interaction between computers and humans using natural language

d)Enhancing human-to-human communication

Q16. Which of the following is an example of supervised learning? (1)
a) Clustering animals into groups   b) Spam email classification

c) Discovering shopping patterns   d) Grouping news articles

Q17. Which of the following is a classification problem? (1)
a) Predicting stock prices   b) Grouping books by genre   c) Estimating house prices

d) Predicting whether a customer will buy a product or not

Q18. What is the main use of the pooling layer in a CNN? (1)

a) To enlarge the image b) To reduce processing complexity c) To convert image format d) To sharpen image

Q19. What does resolution in an image typically indicate? (1)

a) Number of bits   b) Number of colors   c) Width × Height in pixels   d) Color range of pixels

Q20. What is the core idea behind image classification? (1)

a) Locate object boundaries b) Assign category to image c) Convert to grayscale d) Measure image resolution

Q21. What is the main goal of using CNNs in Computer Vision? (1)

a) Text formatting   b) Image encryption   c) Pattern detection in visuals   d) File conversion

Q22. Which of the following is used for finding the frequency of words in some given text sample? (1)

(a) Stemming   (b) Lemmatisation   (c) Bag of words   (d) None of the above

Q23. For _____ the whole corpus is divided into sentences. Each sentence is taken as a different data so now the whole corpus gets reduced to sentences. (1)

(a) Text Regulation   (b) Sentence Segmentation   (c) Tokenization   (d) Stemming

Q24. This real life application of NLP is used to provide an overview of a news item or blog post, while avoiding redundancy from multiple sources and maximising the diversity of content obtained. Which is this application? (1)

(a) Chatbot   (b) Virtual Assistant   (c) Sentiment Analysis   (d) Automatic Summarisation

Q25. Which of the following is the type of data used by NLP applications? (1)

(a) Images   (b) Numerical data   (c) Graphical data   (d) Text and Speech

Section B

Q26. What are the various methods of communication? Describe them in one sentence each with examples. (2)

Q27. All people look forward to vacations for de-stressing and rejuvenation. State any other two ways by which people can manage stress Ways for stress management? (2)

Q28. List any two hardware components used for input and output. (2)

Q29. State any two challenges faced by entrepreneurs. (2)

Q30. What roles does computer vision play in agricultural monitoring systems? (2)

Q31. What do you mean by Bioethics? (2)

Q32. Give two real-life examples of reinforcement learning. (2)

Q33. Explain neural networks. Describe the three layers of neural networks. (2)

Q34. Identify the type of model (classification, regression, clustering, association model) and justify the following case studies most likely based on? (3)

Case Study 1: A bank wants to predict whether a loan applicant will "default" or "non-default" on their loan payments. They have a dataset containing information such as income, credit score, loan amount, and employment status.

Case Study 2: A real estate agency wants to predict the selling price of houses based on various features such as size, location, number of bedrooms, and bathrooms. They have a dataset containing historical sales data.

Case Study 3: A marketing company wants to segment its customer base into distinct groups based on purchasing behavior for targeted marketing campaigns. They have a dataset containing information such as purchase history, frequency of purchases, and amount spent.

Case Study 4: A grocery store wants to identify associations between different products purchased by customers to understand which products are commonly bought together. They have a transaction dataset containing records of items purchased together during each transaction.

Q35. What is the difference between stemming and lemmatization? (3)

Q36. Mention some five applications of Natural Language Processing. (3)

End Of Paper