

## Chapter wise question bank

### Five Marks Questions

- 1 Explain utility base/goal based/model based/ simple reflex/learning agent architecture with diagram. (any one and comparison between)
- 2 Write PEAS for Satellite image processing/Interactive English Tutor/ automated taxi/ chat bot on healthcare etc
- 3 Explain Agent Task environment with example each
- 4 Explain un-informed search algorithms compare with each other.
- 5 Bidirectional search
- 6 Explain informed search algorithm
- 7 Issues in Hill climbing algorithm
- 8 What is heuristic? Write heuristic function for 8 puzzle problem/ 8 Queen
- 9 Explain working of Hill climbing algorithm
- 10 Formulate the problem for 8 queens/ 8 puzzle/ travelling sales man/ .
- 11 What is the difference between unification and Skolemization?
- 12 Explain working of Forward and Backward Chaining algorithms (their comparison)
- 13 What is the difference between propositional and predicate logic?
- 14 Explain working of resolution based proof
- 15 Explain difference in BI and Data Science.
- 16 Compare any 2 plot bar plot, histogram, scatter plot,
- 17 Compare box-plot and scatter-plot.
- 18 Define over fitting and under fitting in detail with a diagram.
- 19 Define bias and variance in detail with examples.
- 20 Types of ML
- 21 Short note on Linear Regression
- 22 Short note on Logistic Regression

### Ten Marks Questions

- 1 What are the different types of task environments? Give examples. Explain the task environment for which problem solving agent is preferred.
- 2 Problem on A\*/ Best First Search Hill climbing formulate and solve
- 3 Explain working of hill climbing algorithm. What are issues in hill climbing?
- 4 Consider following information:

*The law says that it is a crime for an American to sell weapons to hostile nations. The country Nono, an enemy of America, has some missiles, and all of its missiles were sold to it by Colonel West, who is American.*

Represent above information using first order logic and prove “*West is criminal*”

using Forward Chaining/Back ward chaining/Resolution based proof.(any 1)

- 5 Describe any four uninformed search strategies. Compare them with time complexity, space complexity, optimality and completeness.
- 6 What is game tree? Explain different components in a game tree by considering a sample game tree for any two play game.
- 7 Problem on performing t-test/ ANNOVA / finding correlation coefficient
- 8 Explain stages in Data Analytics Life cycle with diagram.
- 9 Explain various roles in Data Science Project.
- 10 What do you mean by data analytics? What are the different types of data analytics?
- 11 What are the multivariate graphical analysis in EDA? Explain various plots used for doing it in detail.
- 12 Explain key roles in a successful data analytics project?
- 13 Compare Z-Test, T-Test and ANOVA in detail.
- 14 What are the different types of ML algorithms?
- 15 Write note on following supervised learning techniques: a) SVM b) ID3 c) Decision Tree etc any 2
- 16 Write note on following un supervised learning techniques: a) K -mean b) DBSCAN c) density based clustering d) agglomerative clustering etc
- 17 What is linear regression? Explain its significance in ML. Compare it with logistic regression
- 18 Describe the architecture of ML application. Explain with a diagram.
- 19 Explain any two supervised machine learning techniques. Explain the use cases where we may prefer one over the other with proper reasoning.
- 20 What is linear regression? Explain its significance in ML and compare it with logistic regression
- 21 What are the different issues in ML algorithms?