573

April 2024

Time – Three hours
(Maximum Marks: 100)

[N.B.   1.   Answer all questions under Part-A. Each question carries 3 marks.

2.   Answer all the questions either (a) or (b) in Part-B. Each question carries 14 marks.]

PART – A

1.   What is approximate inference?

2.   Define compactness.

3.   What is inference?

4.   Define uncertainty.

5.   Why do we need utility theory in AI?

6.   What are the multi attribute utility functions?

7.   What are Naive Bayes models?

8.   Write any two differences between generative model and descriptive model.

9.   Define safe exploration.

10.   Differentiate active reinforcement learning from passive reinforcement learning.

[Turn over.....

PART – B

11. (a) Explain about variable elimination algorithm with an example.

(Or)

(b) Discuss about model based reflex agent and its components with necessary diagram.

12. (a) Discuss about Kalman filters.

(Or)

(b) Explain about dynamic Bayesian networks.

13. (a) What is utility function? Also discuss about utility assessment and utility scaling.

(Or)

(b) What are decision networks? Also explain about evaluate decision networks.

14. (a) Explain about Bayesian linear regression with an example.

(Or)

(b) Discuss about learning hidden Markov models with an example.

15. (a) Explain about generalization in reinforcement learning.

(Or)

(b) Discuss about learning from rewards.

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