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**R-15**

**Code: 5G164**

III B.Tech. II Semester Supplementary Examinations December 2022

**Artificial Intelligence**

( Computer Science and Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any five questions by choosing one question from each unit ( 5x14=70Marks )

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**UNIT-I**

- 1. a) Define artificial intelligence? Explain in brief about PEAS description 5M
- b) Explain in detail about the problem characteristics 9M

**OR**

- 2. a) Explain A\* algorithm in detail with an example 9M
- b) Compare the performance of uninformed search strategies 5M

**UNIT-II**

- 3. a) Discuss forward chaining algorithm. 7M
- b) Illustrate unification with an example. 7M

**OR**

- 4. a) How to show that any first order logic sentence can be put into implicative normal form. 7M
- b) How can resolution be used to show that a sentence is (i) valid (ii) un-satisfiable. 7M

**UNIT-III**

- 5. Explain in detail about actions, situations and events in ontological engineering 14M

**OR**

- 6. a) Discuss logical omniscience. 7M
- b) Write the partial order planning algorithm. 7M

**UNIT-IV**

- 7. a) Explain
  - i) Propositions 7M
  - ii) Atomic Events 7M
- b) Discuss the method for constructing belief networks. 7M

**OR**

- 8. a) Give the axioms of Probability 7M
- b) State the Bayes rule and its usage 7M

**UNIT-V**

- 9. a) Discuss inductive learning. 7M
- b) Write the decision tree learning algorithm. 7M

**OR**

- 10. a) Describe feed forward multilayer neural networks giving details of computations 10M
- b) Discuss about applications of artificial neural networks 4M

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