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END TERM EXAMINATION - MAY 2022 SEMESTER -VI

(B.Tech. CSE -2018,2019)

Subject Code: CS3002

Duration: 3 hours

Subject: Artificial Intelligence and Expert Systems

Max. Marks: 100

Instructions

- · All Questions are compulsory
- The Question paper consists of 2 sections Part A contains 10 questions of 2 marks each. Part B consists of 5 questions of 16 marks each.
- There is no overall choice. Only Part B question include internal choice.

$$PART - A$$

$$(2 * 10 = 20 Marks)$$

- 1. Differentiate between Meta Knowledge and Heuristic Knowledge.
- 2. Explain Alpha Beta Pruning with help of suitable example
- 3. Define backtracking search.
- 4. What is agent in AI.
- 5. What are frames and scripts in Artificial Intelligence.
- 6. What are the three domains of AI?
- 7. Based on the image below, explain the correct domain or domains of AI required for it.



- 8. Why do apps collect data in our phone?
- 9. Explain MYCIN expert system.
- 10. Differentiate supervised and unsupervised learning.

PART - B(16 * 5 = 80 Marks)

11. a) Should AI replace laborious jobs, explain? Is there an alternative for major unemployment? If Yes / No, justify your answers. (8+8)

OR

- **b)** What is "Artificial Intelligence and Artificial Intelligence Technique"? Briefly explain how AI Technique can be represented and list out some of the task domain of AI. (8+8)
- 12.a) Write a short note on: (8+8)
 - (1) Expert System
 - (2) Product based system

OR

- **b)** Give an example of a problem for which breadth first search would work better than depth first search. (8+8)
- 13.a) Write short notes on: (8+8)
 - (1) DART Expert System
 - (2) Draw the truth table of Biconditional and Implication

OR

- b) Explain basic plan generation systems for any expert system and also explain the role of expert system.(8+8)
- 14. a) Explain two real life/daily life examples of AI application which you use. (8+8)

OR

- b) Discuss the following technique with the help of an example. Also discuss the benefits and shortcoming of each (8+8)
- (1) Linear discriminants
- (2) Bayesian classification

15.a) Suppose you have dataset (csv etc.), assume 100 features are here, then what you will do for processing your task, either you will try with all feature data or less or you will add more feature data in present dataset, so that your system/model will get more accuracy. Explain all scenario with examples, write appropriate methods for execute the task for features, which are present in dataset. (8+8)

OR

b) Discuss the heuristic function. Explain how the heuristic function helps during search procedure. Explain with a suitable example. $(8+2)_{\text{PM}}$