

End Semester Examination (ESE) 2020

Semester – 6th

Subject – Artificial Intelligence

Subject Code – CO – 606

New Syllabus

Total Marks – 56

Time – 2 hours.

| PART A - 10 x 1 = 10 Marks | | |
|-----------------------------------|---|--------------|
| Q.No. | Description | Marks |
| 1 | LISP stands for _____. | 1 |
| 2 | Explanation module is not essential in expert systems. State true or false. | 1 |
| 3 | The term lake is associated with hill climbing in AI. State true or false. | 1 |
| 4 | Name the algorithm for used for narrowing version space ? | 1 |
| 5 | Which search technique supports back tracking ? | 1 |
| 6 | The performance of an agent can be improved by a: learning b: observing c: perceiving d: none of these | 1 |
| 7 | Prolog knowledge base consists of _____ and _____ . | 1 |
| 8 | MYCIN is based on i) forward chaining ii) backward chaining iii) both iv) none of these | 1 |
| 9 | WFF stands for _____. | 1 |
| 10 | Modus Ponem is related to i) Matching algorithm ii) Learning method iii) Inference rule iv) None of these | 1 |
| PART – B | | |
| 11 a | State the different AI techniques. | 3 |
| b | Differentiate between procedural and declarative knowledge. | 3 |
| c | Explain the depth-first search technique. | 3 |
| d | State the different clauses in prolog with an example. | 3 |
| e | Mention the different problems in case of developing an expert system. | 3 |
| 12 a | Define production systems and state the advantages. | 2 + 2 |
| b | i) Write a goal, using conc, to delete the last three elements from a list L producing another list L. ii) Write a sequence of goals to delete the first three elements and the last three elements from a list L producing list L2. | 4 |

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|-------------|--|--------------|
| | OR | |
| | Explain the LEX learning model | |
| c | Discuss the concepts of generalization and specialization in inductive learning application. | 4 |
| d | (A) Change the following sentences into predicate logic: i) Abhay likes all kinds of food. ii) Apples are fruits. (B) Which of the following are syntactically correct Prolog objects? What kinds of object are they (atom, number, variable, structure)? i) Doll ii) 49 iii) + (north, east) iv) 5 (X,Y) | 2 + 2 |
| 13 a | Describe the components of a typical expert system with a diagram. | 5 |
| b | Explain the general learning model with a suitable diagram. | 5 |
| c | Explain the Markov algorithm and state how Rete algorithm is different from Markov algorithm. | 2 + 3 |

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