

CBCS SCHEME

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20MCM/MAR31

Third Semester M.Tech. Degree Examination, Jan./Feb. 2023 Artificial Intelligence & Expert System in Automation

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What is Artificial Intelligence? Explain Artificial Intelligence in CAD. (10 Marks)
b. List and explain applications of Artificial Intelligence in design. (10 Marks)

OR

- 2 a. List and explain steps involved in building an expert system. (10 Marks)
b. Discuss the knowledge acquisition techniques. (10 Marks)

Module-2

- 3 a. What is knowledge representation process? Explain knowledge representation in industrial scenario. (10 Marks)
b. With block diagram, explain issues in KR (Knowledge representation) process. (10 Marks)

OR

- 4 a. Write a detailed note on knowledge representation languages. (10 Marks)
b. With a practical example, explain an Artificial Intelligence knowledge cycle. (10 Marks)

Module-3

- 5 a. What is DSS? Discuss characteristics of DSS. (10 Marks)
b. What is Resolution theorem? Explain Resolution method in Artificial Intelligence. (10 Marks)

OR

- 6 a. What is Machine Learning? How machine learning works? (10 Marks)
b. Discuss perception learning in detail. (10 Marks)

Module-4

- 7 a. Discuss back propagation algorithm in detail. (10 Marks)
b. What is competitive learning? Explain in detail. (10 Marks)

OR

- 8 a. List and explain significance of the genetic operators. (10 Marks)
b. What is genetic programming? List the application of GP. (10 Marks)

Module-5

- 9 What is inference process? Discuss
a. Forward chaining
b. Backward chaining (20 Marks)

OR

- 10 a. List and explain typical expert system used in Artificial Intelligence. (12 Marks)
b. Write short notes on the following :
(i) Pattern matching. (ii) Fuzzy Logic control. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.