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Question Paper Code	12147
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**M.E. / M.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023**

Second Semester

**M.E. – CAD/CAM**

**20PCDEL206 - ARTIFICIAL INTELLIGENCE AND ITS INDUSTRIAL APPLICATIONS**

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

**PART - A (10 × 2 = 20 Marks)**

Answer ALL Questions

- |   | <i>Marks,<br/>K-Level, CO</i> |
|---|-------------------------------|
| 1. Recall the Fifth generation of computer computing characteristics. | 2,K1,CO1                      |
| 2. List the five steps in NLP.  | 2,K1,CO1                      |
| 3. Write the properties of Forward-Chaining.                          | 2,K1,CO2                      |
| 4. Plot the difference between fuzzy logic and probability.           | 2,K2,CO2                      |
| 5. What is a Compiler in LISP?  | 2,K1,CO3                      |
| 6. Write the Phases of Expert System Development Life Cycle.          | 2,K2,CO3                      |
| 7. What is a Canonical Data Model?                                    | 2,K1,CO4                      |
| 8. Recall the advantages of MYCIN.                                    | 2,K1,CO4                      |
| 9. Write the types of vision systems in robots.                       | 2,K1,CO5                      |
| 10. Where automatic speech recognition is used?                       | 2,K1,CO5                      |

**PART - B (5 × 13 = 65 Marks)**

Answer ALL Questions

11. a) Illustrate about the steps involved in developing AI systems. 13,K2,CO1
- OR**
- b) Describe the types of artificial neural networks currently being used in machine learning. 13,K2,CO1
12. a) Elaborate in detail about the Semantic Network Representation with example. Write the advantages and disadvantages of Semantic Network. 13,K2,CO2
- OR**
- b) Explain the Automated Machine Learning with the steps. Write the importance of Automated machine learning. 13,K2,CO2
13. a) Illustrate the choice of expert system development. 13,K2,CO3

**OR**

b) Discuss about the LISP and its program structure. *13,K2,CO3*

14. a) Discuss the fundamentals of object-oriented programming. *13,K2,CO4*

**OR**

b) Describe the case studies in expert systems. *13,K2,CO4*

15. a) Explain the following in Image Processing (i) Noise Reduction (ii) Gray Scale Modification (iii) Histogram Flattening. *13,K2,CO5*

**OR**

b) Discuss Object recognition and inspection in difficult industrial environments. *13,K2,CO5*

**PART - C (1 × 15 = 15 Marks)**

16. a) Illustrate the Certainty Factor in Artificial Intelligence. *15,K2,CO2*

**OR**

b) Explain the forms of learning in detail. *15,K3,CO3*