B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

00813 Term-End Examination

December, 2018

BME-022 : SOFT COMPUTING IN CIM

Time : 3 hours   *Maximum Marks : 70*

Note : *Attempt any **ten** questions. All questions carry equal marks. Use of scientific calculator is permitted.*

1. Define "Expert System". What is the need of combining expert system and CAD ?   7

2. Discuss the role of expert system in Interactive Design Advisors.   7

3. What do you mean by "fuzzy IF-THEN rules" ? Discuss the physical significance of "fuzzy IF-THEN rules".   7

4. Discuss the role of generic operators in exploring the search space. What are the measures that can be taken to avoid the local extrapment of solution ?   7

5. Describe the implementation procedure of generic algorithm in process planning problem. 7

6. What is the practical significance of hypermutation in artificial immune system ? 7

7. Discuss the advantages of Computer Integrated Manufacturing. Describe the technologies associated with Computer Integrated Manufacturing. 7

8. Describe the role of Fuzzy Inference system in various stages of manufacturing. 7

9. Explain the various steps of ant colony optimisation. 7

10. What is the basic purpose of using formal modelling technique ? Why is modelling by Petri nets gaining popularity ? Explain. 7

11. Enumerate the four characteristics of a manufacturing system. What is meant by sequential execution within a Petri net ? 7

12. Define "Fuzzy Petri Nets (FPN)". Can FPN deal with compound production rules ? Explain. 7

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