BME-022

B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

Term-End Examination

00232   December, 2017

BME-022 : SOFT COMPUTING IN CIM

Time : 3 hours   *Maximum Marks : 70*

*Note : Answer any **five** of the following questions.*

1. (a) Discuss the role of the Expert System in Interactive Design Advisors.

    (b) What is the need of combining expert system and CAD ?   7+7

2. (a) Describe in brief, the architecture of neural networks.

    (b) What is the use of back propagation in neural networks ?   7+7

3. (a) What is the difference between Fuzzy sets and Crisp sets ?

    (b) Discuss the application of fuzzy logic in Flexible Manufacturing System (FMS).   7+7

4. (a) What are the practical significance of the Tabu list, Aspiration level and Reject in a Tabu based algorithm ?

(b) "Tabu algorithm yields better quality of solution as compared to the genetic algorithm." Justify the above statement.   7+7

5. (a) Discuss the basic steps required to be taken while implementing the basic PSO in the travelling salesman problem.

(b) How does psycho-clonal algorithm differ from artificial immune system algorithm ?   7+7

6. (a) Discuss the advantages of Computer Integrated Manufacturing.

(b) Explain the applications of neural networks for modeling and design of manufacturing systems.   7+7

7. (a) Discuss in brief, the main features of Group Technology.

(b) What are the various scheduling types generally required in FMS ?   7+7

8. (a) What are the merits and demerits of classical Petri Net Modelling ?

(b) Explain in brief, Fuzzy Petri Nets.   7+7