**Code: 17D04104**

M.Tech I Semester Regular & Supplementary Examinations January/February 2019
## DESIGN FOR CELLULAR MANUFACTURING SYSTEM
(CAD/CAM)
(For students admitted in 2017 & 2018 only)

Time: 3 hours                                             Max. Marks: 60

Answer all the questions
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1    Explain briefly the three basic steps in GT.

**OR**

2    Briefly explain how to form groups in GT and form the group for the below mentioned problem and discuss the same.

| Machine | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| A       | 1 | 1 | 1 |   |   |   |   |   |
| B       | 1 | 1 | 1 |   |   |   |   |   |
| C       |   |   | 1 | 1 | 1 | 1 |   |   |
| D       |   |   |   | 1 | 1 | 1 | 1 |   |
| E       |   |   |   |   |   |   | 1 | 1 |
| F       |   |   |   |   |   |   | 1 | 1 |

3    Explain briefly the five phases considered in genetic algorithm.

**OR**

4    The following table shows six evaluations of a simulated annealing algorithm. For each evaluation give the probability of the next state being accepted (to 4 dp). Assume the objective function is being maximized.

| Current Evaluation | Neighbourhood Evaluation | Current Temperature |
|--------------------|--------------------------|---------------------|
| 75                 | 65                       | 25                  |
| 75                 | 55                       | 25                  |
| 75                 | 65                       | 50                  |
| 75                 | 55                       | 50                  |
| 65                 | 75                       | 25                  |
| 65                 | 75                       | 50                  |

5    Explain briefly the cost and non-cost based models with a suitable example.

**OR**

6    Explain briefly the life cycle issues in GT.

7    Explain in detail how can the work-in-process within a cell can be determined.

**OR**

8    What are the four common GT cell configurations, as identified in the text?

9    Explain briefly the analysis of cellular manufacturing.

**OR**

10    With a case study explain the human aspects of GT.

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