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Total No. of Pages : 02

Total No. of Questions : 08

M.Tech.(ME) (Sem.-3)
COMPUTER AIDED MANUFACTURING
Subject Code : MME-519
Paper ID : [E0416]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1.
 - a) What are the capabilities that a manufacturing system must possess in order to be classified as flexible? Name some production situations in which FMS technology may be applied.
 - b) Describe the various types of FMS layout configurations.
2.
 - a) Describe the variant type process planning with the help of a neat diagram. What are its benefits?
 - b) Taking the example of a manufactured part, prepare a typical route sheet for its fabrication involving at least ten processes.
3.
 - a) How is CNC distinguished from conventional NC? List down the advantages of numerical control as applied to machine tool operations.
 - b) What is the difference between point-to-point and continuous path control in a motion control system? Explain with the help of examples.
4.
 - a) What is the difference between manual part programming and computer-assisted part programming?
 - b) Give some examples of the geometric and postprocessor statements used in NC programming language.
5.
 - a) Explain any one Parts classification and coding system in detail.
 - b) Describe the rank order clustering technique with the help of a suitable example.

6.
 - a) What do you understand by artificial intelligence? Discuss its applications in automated process planning.
 - b) What is production flow analysis? Explain the various steps of this approach.
7.
 - a) Briefly describe the various design activities for a manufacturing system.
 - b) Discuss the characteristics of low, medium and high quantity production organizations. Give one example of each type.
8. Write short notes on :
 - a) Tool length and radius compensation.
 - b) Decision trees.
 - c) FMS benefits.
 - d) Composite part concept.

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