M.E. Second Semester (Mechanical Engineering) (CAD / CAM) (F.T.) (CGS)

13497 : Elective : Flexible Manufacturing System : 2 MCC 5

P. Pages : 1 | AU - 3299

Time : Three Hours | * 0 9 9 6 * | Max. Marks : 80

Notes : 1. Answer **three** question from Section A and **three** question from Section B.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Illustrate your answer necessary with the help of neat sketches.

SECTION - A

1.	a)	What is Flexible Manufacturing System (FMS)?	**3**
	b)	State and define types of flexibility in Manufacturing.	**7**
	c)	What tests should a manufacturing system satisfy to qualify as being flexible? Explain them.	**4**
2.	a)	What are the basic components of FMS?	**4**
	b)	Explain the role of the computer in FMS.	**6**
	c)	What is part family? Explain.	**3**
3.	a)	Explain performance monitoring reports of FMS.	**6**
	b)	Explain the primary material handling and secondary material handling system in FMS.	**7**
4.	a)	Explain FMS planning and design issues.	**10**
	b)	State the operational problems that must be solved to meet the production requirements and operational objectives of FMS.	**3**
5.	a)	Explain the role of "Load/unload stations" in FMS.	**6**
	b)	Explain the principal benefits of FMS.	**7**

SECTION - B

6.	a)	Define automated guided vehicle system (AGVS). What are various types of AGVS.	**6**
	b)	What are the various methods of traffic control used in commercial AGV systems and explain any one of them.	**8**
7.	a)	What is the role of computer in AGVS? Discuss.	**7**
	b)	What are the various functions of AGVS?	**6**
8.	a)	Define automated storage/retrieval system (AS/RS). What are the various types of AS/RS.	**7**
	b)	Differentiate between AS/RS and carouse/storage system.	**6**
9.	a)	Explain WIP storage system. Discuss the merits and disadvantages of WIP storage system.	**7**
	b)	What are the applications of AS/RS.	**6**
10.	a)	State various FMS analysis techniques. Describe any one of them.	**6**
	b)	What is petri net modelling. Explain Petri net modelling technique for anlaysis of FMS.	**7**

****