Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VII(NEW) • EXAMINATION – WINTER 2016

Su Tir	bject	Code:2172506 Date:29/11/201 Name:Flexible Manufacturing System(Department Elective - II) 0.30 AM to 1.00 PM Total Marks: 70 pm:	
	2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Explain principle objectives of FMS. Also state benefits and limitations of FMS.	07
	(b)	Explain various hardware and software utilized in FMS. How they are coordinated?	07
Q.2	(a)	What do you understand by a cell? Explain cellular manufacturing with a suitable example. What are its benefits?	07
	(b)	Explain unattended machining. How far this concept is suitable in Indian industries in present scenario.	07
	(b)	OR Differentiate cellular v/s flexible manufacturing. Which one is better in which specific conditions?	07
Q.3	(a)	Explain automated features and capabilities of turning centre. How it functions? How it is better than a conventional turning operation?	07
	(b)	Explain automated features and capabilities of machining centre. How it works? How it is beneficial in modern machining operations? OR	07
Q.3	(a) (b)	Explain pallet, part loading and programming options in machining centre. Explain usefulness of robot in modern manufacturing. Classify robots and its configurations.	07 07
Q.4	(a)	Explain how inspection can be automated? Also explain automated inspection is useful in industries with suitable examples.	07
	(b)	Explain type, construction and general functions of CMM in detail. What are its key benefits.	07
Q.4	(a)	OR Explain how tools are preset, how they are identified and how they are	07
	(b)	controlled. Explain tool monitoring and fault detection in detail with a suitable example. Also explain how data is transferred?	07
Q.5	(a)	Explain how FMS can be installed in a modern industry. How it can be implemented and maintained?	07
	(b)	implemented and maintained? Explain importance of cleaning and de burring operations in automated manufacturing.	07
		OR	
Q.5	(a)	Explain functioning of Automated Storage and Retrieval System in FMS in modern industry.	07
	(b)	Explain automated work changer, tool changer, coolant, chip disposal and recovery system.	07
