

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2020****Subject Code:2172506****Date:28/01/2021****Subject Name:Flexible Manufacturing System****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Enlist different types of FMS and define “Engineered FMS”.	03
	(b) State the limitations of conventional manufacturing over FMS.	04
	(c) Discuss the factors influencing the FMS layout.	07
Q.2	(a) Enlist the aims of FMS.	03
	(b) Define manufacturing cell and classify it.	04
	(c) Discuss the principle objectives of FMS.	07
Q.3	(a) Enlist the merits and demerits of a horizontal machining center.	03
	(b) Explain the primary axes of horizontal machining center.	04
	(c) Discuss the reasons for adopting Group Technology.	07
Q.4	(a) Enlist the merits and demerits of vertical machining center.	03
	(b) Explain the primary axes of vertical machining center.	04
	(c) Discuss the benefits of GT affecting many areas of a company.	07
Q.5	(a) Enlist common types of automated deburring and give the brief about vibratory deburring.	03
	(b) Give the importance of deburring and cleaning in automated manufacturing system.	04
	(c) Discuss the automated features and capabilities of machining center.	07
Q.6	(a) Explain the in-line type wash station.	03
	(b) Give the function of CMM computer.	04
	(c) Discuss the CMM construction in details.	07
Q.7	(a) Define an industrial robot and enlist the basic components of a robotic system.	03
	(b) Enlist tool identification system and explain any two.	04
	(c) Enlist types of AGVs and explain any three in details.	07
Q.8	(a) Explain the Carousel automated storage and retrieval system.	03
	(b) Give the brief about the tool strategies employed in FMS.	04
	(c) Discuss the all phases for the installation of FMS.	07

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