Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III (OLD) - EXAMINATION – SUMMER 2017

Subject Code: 131903 **Date: 15/06/2017**

Subject Name: Manufacturing Process-1

Time: 10:30 AM to 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Define the machine tools and broadly classify machine tools.	**07**
	(b)	Draw a block diagram of an Engine Lathe and label all parts of it.	**07**
Q.2	**(a)**	List the work holding devices used on lathe and with neat sketch explain any three of them.	**07**
	(b)	Sketch all the operations performed on lathe showing the directions of cutting parameters.	**07**
		OR	
	(b)	Clearly differentiate the Capstan and Turret Lathe.	**07**
Q.3	**(a)**	With a neat sketch explain the working of Radial drilling machine and Gang drilling machine.	**07**
	(b)	Clearly differentiate the Shaper and the Planer machine.	**07**
		OR	
Q.3	**(a)**	With a neat sketch explain the working of crank and slotted lever quick return mechanism of a Shaper.	**07**
	(b)	Draw the geometry of a twist drill, label all elements of it and explain the importance of each element.	**07**
Q.4	**(a)**	Classify the milling machines and explain the working of any two type of milling machines.	**07**
	(b)	Explain the mechanism of direct indexing and simple indexing.	**07**
		OR	
Q.4	**(a)**	With a neat sketch explain the up-milling and down-milling process.	**07**
	(b)	With a neat sketch explain the working of horizontal boring machine stating its advantages and limitations.	**07**
Q.5	**(a)**	Define glazing, loading, dressing and truing for grinding wheel.	**07**
	(b)	Explain the different types of surface grinding machine with a neat sketch.	**07**
		OR	
Q.5	**(a)**	Define the function of sawing and broaching machine and explain Band saw machine.	**07**
	(b)	With a neat sketch explain the working of centerless grinding with work feeding methods.	**07**

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