Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC SEMESTER VII– EXAMINATION – SUMMER 2017

Subject Code: X71902 **Date: 01/05/2017**

Subject Name: Production Technology

Time: 02.30PM to 05.00PM **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)**	Draw the merchant's circle diagram and derive the relation of different forces with cutting force and thrust force.	**07**
	(b)	List the properties of cutting fluids and explain various cutting fluids.	**07**
Q.2	**(a)**	Explain tool wear and tool life. Explain the parameters affecting the tool life.	**07**
	(b)	Explain the properties required in the cutting tool materials.	**07**
		OR	
	(b)	With neat sketch explain the ASA system and ORS system of tool designation.	**07**
Q.3	**(a)**	Explain different locating devices used in jigs and fixtures.	**07**
	(b)	Explain different types of bushes used in Drilling Jigs.	**07**
		OR	
Q.3	**(a)**	Define fixtures and classify milling fixtures.	**07**
	(b)	List the drilling jigs and explain any three of them.	**07**
Q.4	**(a)**	Explain gear shaping process by gear shapers.	**07**
	(b)	Explain thread rolling process.	**07**
		OR	
Q.4	**(a)**	Explain the gear cutting by milling machine.	**07**
	(b)	Explain mechanical stepped drives used in machine tools.	**07**
Q.5	**(a)**	Explain the working principle of ultrasonic machining and state its advantages, limitations and applications.	**07**
	(b)	Explain the working and utilization of hydraulic drive in machine tools.	**07**
		OR	
Q.5	**(a)**	Explain the working principle of Electro chemical machining and state its advantages, limitations and applications.	**07**
	(b)	Differentiate clearly between center lathe and capstan and turret lathe.	**07**

****