Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER – VII • EXAMINATION – WINTER 2012

Subject code: X 71902 **Date: 27/12/2012**

Subject Name: Production Technology

Time: 10.30 am - 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)**	Sketch the elements of the single point cutting tool and explain significance of each of them.	**07**
	(b)	Define the tool life and explain the factors affecting the tool life.	**07**
Q.2	**(a)**	List the common gear manufacturing methods and explain any three of them.	**07**
	(b)	Following data was obtained during an orthogonal cutting operation on a seamless tube of 38mm outside diameter with a HSS tool. Cutting speed: 0.2 m/s, Rake angle: 20°, Feed rate: 0.128 mm/rev, Length of continuous chip in one revolution: 64 mm, Cutting force: 101 N, Feed force: 40 N. Find the velocities of shear and chip flow.	**07**
		OR	
	(b)	How does Oblique cutting differ from orthogonal cutting? Discuss different types of chips.	**07**
Q.3	**(a)**	What is location system? Explain different types of locators.	**07**
	(b)	Classify the types of Presses.	**07**
		OR	
Q.3	**(a)**	Define jigs and fixtures and discuss different types of clamping devices.	**07**
	(b)	Sketch and explain different types of drill bushes.	**07**
Q.4	**(a)**	With sketch explain different types of forming operations.	**07**
	(b)	Classify common machine tool drives.	**07**
		OR	
Q.4	**(a)**	List the principal requirements of the guide ways and explain various types of slide ways.	**07**
	(b)	Compare capstan lathe with turret lathe and explain turret tool layout.	**07**
Q.5	**(a)**	List the chief draw backs of the conventional machining processes which lead to develop unconventional machining processes.	**07**
	(b)	With schematic set up explain working of Water Jet Machining and specify its advantages and disadvantages.	**07**
		OR	
Q.5	**(a)**	With schematic set up explain working of Electro Chemical Machining and specify its advantages and disadvantages.	**07**
	(b)	List the advantages and disadvantages of unconventional machining processes.	**07**

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