Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER V • EXAMINATION – WINTER - 2012

Subject code: 152502 **Date: 12-01-2013**

Subject Name: Tool Design

Time: 02:30 pm to 05:00 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)**	Explain geometry of different multipoint cutting tools.	**07**
	(b)	Explain the various elements of a single point cutting tool with the help of a neat diagram.	**07**
Q.2	**(a)**	Explain the Press working terminology with neat sketch.	**07**
	(b)	Give the name of press working dies. Explain any one of them.	**07**
		OR	
	(b)	What are the various types of strippers? Explain their functions with the help of suitable sketches.	**07**
Q.3	**(a)**	Define Tool Design. Explain the procedure of Tool Design.	**07**
	(b)	Explain the Merchant Circle diagram and state its assumptions.	**07**
		OR	
Q.3	**(a)**	What are the impacts of different cutting parameters on tool life?	**07**
	(b)	Differentiate Orthogonal and Oblique cutting system with neat sketch.	**07**
Q.4	**(a)**	Write name of advanced cutting tool materials and discuss any two with their advantages, disadvantage and applications.	**07**
	(b)	Write sources of heat generation in machining and its effects.	**07**
		OR	
Q.4	**(a)**	Describe the properties of coolants. Explain different types of coolants with their applications.	**07**
	(b)	Differentiate Work shop gauge, Inspection gauge and Master gauge.	**07**
Q.5	**(a)**	Explain the various types of clamping devices with neat sketch.	**07**
	(b)	Explain the principle of location. Or “3-2-1” principle.	**07**
		OR	
Q.5	**(a)**	What are the various location devices? Explain these with the aid of suitable sketches.	**07**
	(b)	Write terminology for limits and fits with neat sketch.	**07**

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