Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V • EXAMINATION – WINTER • 2014

Subject Code: 152502 **Date: 28-11-2014**

Subject Name: Tool Design

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)**	Write about Tool design and discuss the various steps in Tool design.	**07**
	(b)	Explain the various elements of a single point cutting tool with the help of a neat diagram.	**07**
Q.2	**(a)**	Explain geometry of various multipoint cutting tools.	**07**
	(b)	Discuss the various types of chips produced during metal cutting.	**07**
		OR	
	(b)	Why tool wear is important in metal cutting? Discuss various types of tool wear.	**07**
Q.3	**(a)**	Differentiate Orthogonal and Oblique cutting system with neat sketch.	**07**
	(b)	Explain the heat generation in machining and its effects.	**07**
		OR	
Q.3	**(a)**	What are the form tools? Discuss the design features of form tools.	**07**
	(b)	What do you understand by tool life? Explain various variables that play an important role in tool life.	**07**
Q.4	**(a)**	What is 3-2-1 principle? Explain it with the help of suitable sketches.	**07**
	(b)	Describe the properties of coolants. Explain different types of coolants with their applications.	**07**
		OR	
Q.4	**(a)**	What are the various location devices? Explain these with the aid of suitable sketches.	**07**
	(b)	Explain the Press working terminology with neat sketch.	**07**
Q.5	**(a)**	What are the various types of strippers? Explain their functions with the help of suitable sketches.	**07**
	(b)	What is meant by the term “fit”. Explain the various types of fits.	**07**
		OR	
Q.5	**(a)**	List and explain the types of drill bushes.	**07**
	(b)	Differentiate Work shop gauge, Inspection gauge and Master gauge.	**07**

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