Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI • EXAMINATION – WINTER 2013

Subject Code: 162503 **Date: 06-12-2013**

Subject Name: Metal Forming Processes

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)**	Classify the metal forming processes. With its merits, demerits and application.	**07**
	(b)	Differentiate the Hot and Cold Working Processes.	**07**
Q.2	**(a)**	Define Recrystallization and describe its importance in hot working.	**07**
	(b)	Explain the Mode and Types of fractures and its influence in service life of parts.	**07**
		OR	
	(b)	Explain the fatigue tests of material and method to improve fatigue Resistance.	**07**
Q.3	**(a)**	What is strain rate? Briefly explain factors affecting strain rate.	**07**
	(b)	Define Creep. Explain factors affecting creep resistance.	**07**
		OR	
Q.3	**(a)**	Explain the Fatigue. How is the fatigue test performed?	**07**
	(b)	Explain the defects of rolled products.	**07**
Q.4	**(a)**	Discuss the arrangement of rolls in rolling mills giving reasons for each arrangement.	**07**
	(b)	Write the Principal of forging process. Explain Open and Close Die Forging Processes.	**07**
		OR	
Q.4	**(a)**	Explain the Force Analysis in forging with neat sketch.	**07**
	(b)	Explain the defects of rolled products.	**07**
Q.5	**(a)**	Explain the process of Extrusion. Explain the process of tube extrusion.	**07**
	(b)	Explain Drawing process. Explain in brief deep drawing process.	**07**
		OR	
Q.5	**(a)**	Explain the process of Hydrostatic Extrusion.	**07**
	(b)	Write a short note on metal spinning with its Advantages and disadvantages.	**07**

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