Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI • EXAMINATION – SUMMER • 2014

Subject Code: 163402 **Date: 21-05-2014**

Subject Name: Metal Forming Processes

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)**	Explain the two theories to determine the stresses of ductile material subjected to plastic yielding.	**07**
	(b)	Classify forming process. Explain in brief about any one process.	**07**
Q.2	**(a)**	What is elastic deformation and plastic deformation in metal forms process?	**07**
	(b)	Describe the flow curve of a ductile material subjected to tensile force.	**07**
		OR	
	(b)	Write short notes on Strain rate workability and residual Stress in metal forming.	**07**
Q.3	**(a)**	What is rolling process? Write different types of rolling process. Explain in brief about any one rolling process.	**07**
	(b)	Describe the analysis of rolling process.	**07**
		OR	
Q.3	**(a)**	Define forging process. What is the difference between open die forging and closed die forging?	**07**
	(b)	Describe the advantages and limitation of forging process.	**07**
Q.4	**(a)**	What are the different variables affecting Extrusion, explain.	**07**
	(b)	Describe Hydro- Static Extrusion with neat sketch.	**07**
		OR	
Q.4	**(a)**	Define draw ratio. How to find the force required to draw a symmetrical cup. Assume required parameters.	**07**
	(b)	Explain the process of cold drawing and wire drawing with suitable sketch.	**07**
Q.5	**(a)**	Define Sheering, Blanking, and Bending process of sheet metal forming.	**07**
	(b)	What are the different types of Dies used in press working? Explain about any one die in detail.	**07**
		OR	
Q.5	**(a)**	Explain about explosive forming process with suitable diagram.	**07**
	(b)	What are the advantage and limitation of Electromagnetic forming process?	**07**

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