Seat No.:		D.: Enrolment No	-	
		GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VI (OLD) - EXAMINATION – SUMMER 2017		
Subject Code: 163402		et Code: 163402 Date: 12/05/20	Date: 12/05/2017	
	•	et Name: Metal Forming Processes		
Time: 10:30 AM to 01:00 PM		10:30 AM to 01:00 PM Total Marks:	: 70	
In	struct			
		 Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 		
Q.1	(a) (b)	Define Forming. Explain briefly the classification of forming processes. Explain the two theories to determine the stresses of ductile material subjected to plastic yielding.	07 07	
Q.2	(a) (b)	OR What is extrusion? Explain briefly the classification of Extrusion processes. Explain the Hydrostatic extrusion with a neat sketch and discuss its advantages & disadvantages.	07 07	
		OR		
	(b)	Define Stress. Explain the components and types of stress.	07	
		OR		
Q.3	(a) (b)	What is elastic deformation and plastic deformation in metal forms process? Define Sheering, Blanking, and Bending process of sheet metal forming. OR	07 07	
Q.3	(a)	Explain about deformation zone geometry. Discuss about workability and	07	
	, ,	residual stresses of metal forming.		
	(b)	Describe Hydro- Static Extrusion with neat sketch. OR	07	
Q.4	(a)	Explain the comparison of yield criteria. Discuss briefly the Von mises yield criteria.	07	
	(b)	Describe the flow curve of a ductile material subjected to tensile force. OR	07	
Q.4	(a)	Describe the analysis of rolling process.	07	
	(b)	Explain the strain rate and metallurgical structure on metal working with neat sketch.	07	
		OR		
Q.5	(a)	Define Forging. Discuss briefly the types of presses and hammers with a neat sketch.	07	
	(b)	Explain the different forging operations with a neat sketch. Discuss about the typical forging defects.	07	

(b) Explain the different types of rolling processes. Discuss the fundamental

(a) Define Rolling. Explain the hot rolling and cold rolling with a neat sketch.

concept of metal rolling with a neat sketch.

Q.5

OR

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