Seat No.: _				
	(GUJARAT TECHNOLOGICAL UNIVE		
M.E –II st SEMESTER–EXAMINATION – JULY- 2012 Subject code: 1720808 Date: 12/07/			- 2012 Date: 12/07/201	2
•		e: Manufacturing processes & analysis	Dutc. 12/0//201	. 2
· · · · · · · · · · · · · · · · · · ·			Total Marks: 7	70
Instructi		-		
	_	t all questions.		
		nitable assumptions wherever necessary.		
3. Fig	ures	to the right indicate full marks.		
Q.1	(a) (b)	Give the complete analysis of metal drawing process. A 37.5 cm long, 19 mm wide & 2.5 mm thick strip is to be bent in a v-shaped die. Calculate the bending force necessary if the steel has 630 N/mm² tensile strength.		10 04
Q.2	(a) How steel castings should be designed to minimize internal stresses?(b) For what type of casting & in what quantities would you recommend smolding?			07 07
		OR		
	(b)	Why can Investment casting be produced to close tolerar	nces?	07
Q.3	(a)	Explain the effect of the stiffness of the various comport on weld defects.	nents to be welded	08
(b)		Discuss methods to analyze stresses in welded structures. OR		06
Q.3	(a)	What are the characteristics of the heat-affected zone? D		08
	(b)	Write short note on tool wear & cutting forces in cryoger	nic machining.	06
Q.4	(a)	How gun drills are classified? Explain.		06
ζ	(b)	Why do different material-removal processes affect the materials to different degrees?	fatigue strength of	08
		OR		
Q.4	(a)	Comment on the depth of material removed from a	metal surface by	06
Q.4	(b)	abrasive-jet machining. Explain how the EDM process is capable of producing c	omplex shapes.	08
Q.5	(a) (b)	Why are cleaning and finishing operations necessary for rapid-prototyping processes?		08 06
Q.5	(a)	OR Can rapid-prototyped parts be made of paper? List t	the advantages of	08
<i>Q.</i> 3	(a) (b)	physical rapid prototyping. What is virtual prototyping, and how does it differ from		06

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