Seat No.:	Enrolment No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER - VIII.EXAMINATION - WINTER 2016

	•	ect Code: 182101 Date: 21/10/2016 ect Name: Metal Working Processes	
T	ime	: 02:30 PM to 05:00 PM Total Marks: 70	
-11	isti uc	 Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 	
Q.1	(a) (b)	What is recrystallization? Discuss the factors affecting recrystallization. Classify and differentiate metal working processes depending on temperature.	07 07
Q.2	(a) (b)	What do you mean by workability? Discuss it. Explain different forging operations with neat sketch. OR	07 07
	(b)	Discuss variables in wire drawing process.	07
Q.3	(a)	Discuss close die forging process in detail with functions of flash and flash gutter.	07
	(b)	Define or explain: Neutral Point and Angle of Bite. Derive equations for L_P and Δh_{MAX} .	07
		OR	
Q.3	(a)	List different rolling defects with neat sketch and discuss their causes and remedies.	07
	(b)	Write note on residual stresses.	07
Q.4	(a)	What are aim and limitations of metal working process analysis? List and briefly explain different methods of analysis of metal working processes.	07
	(b)	List different temperature measuring equipment and write note on optical pyrometer.	07
		OR	
Q.4	(a) (b)	With neat sketch explain different types of rolling mills. Explain different extrusion processes with neat diagram.	07 07
Q.5	(a) (b)	What are different rolling variables? Discuss them. Briefly discuss extrusion ratio, lubrication and defects in extrusion. OR	07 07
Q.5	(a) (b)	Explain shearing and deep drawing as method of sheet metal working. Write note on HERF.	07 07
