Seat No.:	Enrolment No.
Deat 110	Linoinent 10

Subject Code:162503

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VI EXAMINATION – WINTER 2015

Date:14/12/ 2015

Tiı	ne:2 tructio 1. 2.	Attempt all questions.	
Q.1	(a)	What do you mean by Metal Forming Process? Classify. Write its merits and demerits.	07
	<b>(b)</b>	Explain effects of temperature, microstructure and friction in metal forming yield criteria and their significance.	07
Q.2	(a) (b)	Explain the concept of flow stresses in metal forming.  Explain stress – strain relations in elastic and plastic deformation.  OR	07 07
	<b>(b)</b>	Explain the Hot and Cold Working Processes and Its Effect on Mechanical Properties.	07
Q.3	(a) (b)	What is strain rate? Briefly explain factors affecting strain rate.  Define Recrystallization and describe its importance in hot working.	07 07
		OR	
Q.3	(a)	Classify the Rolling Processes with neat sketch. Explain the Planetary rolling mill.	07
	<b>(b)</b>	With the help of neat schematic diagram explain the manufacturing of the pipe by the rolling process.	07
Q.4	(a) (b)	Write the Principal of forging process. Explain the methods of forging. Explain in brief various forging defects and suggest the suitable remedies.	07 07
		OR	
Q.4	(a)	Explain the principal of metal spinning with neat sketch. Write its merits, demerits and applications.	07
	<b>(b)</b>	Mention the process steps involved in high velocity forming of metals and bring out its positive features, limitations and applications.	07
Q.5	(a) (b)	Explain Tube and Rod Drawing Process.  Explain the Extrusion processes. Differentiate forward extrusion and backward extrusion with neat sketch.	07 07
		OR	
Q.5	(a) (b)	Explain the process of press brake forming. Explain Analysis of Wire Drawing Process and Load Calculations.	07 07