Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–VI (NEW) EXAMINATION – WINTER 2020

Subject Code:2162508 Date:22/01/2021

Subject Name:Metal Forming Technology

Time:02:00 PM TO 04:00 PM Total Marks: 56

Instructions:

1. **Attempt any FOUR questions out of EIGHT questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			MARKS
Q.1	**(a)**	Define a) Slip b) Twinning	**03**
	(b)	Explain the factors affecting the strain rate	**04**
	(c)	Explain the differences of hot and cold working processes in detail.	**07**
Q.2	**(a)**	Describe various Rolling defects.	**03**
	(b)	Explain the process of Ring rolling with a neat sketch	**04**
	(c)	Explain Two-High, Three-High & Four-High Rolling Mill with neat sketch.	**07**
Q.3	**(a)**	Explain working of planetary rolling mill with sketch.	**03**
	(b)	Mention some of the advantages of forging over casting process.	**04**
	(c)	Explain the piercing method of pipe and tube manufacturing by extrusion.	**07**
Q.4	**(a)**	Classify various types of forging process.	**03**
	(b)	Write a short note on forging defects.	**04**
	(c)	Differentiate Forward and backward Extrusion in detail with sketch.	**07**
Q.5	**(a)**	Explain Cold Heading process.	**03**
	(b)	What is Bending? Compare Edge bending, V-bending and U-bending.	**04**
	(c)	Sketch and Compare Wire Drawing with Rod/Bar Drawing.	**07**
Q.6	**(a)**	Explain Rotary Swaging process	**03**
	(b)	Differentiate between coining and embossing process.	**04**
	(c)	Explain Open and Closed Die Forging processes.	**07**
Q.7	**(a)**	Distinguish between Blanking and Piercing process.	**03**
	(b)	Sketch and explain Deep drawing.	**04**
	(c)	Explain the principle of Hydrostatic Extrusion process with a neat sketch.	**07**
Q.8	**(a)**	Classify the sheet metal forming process.	**03**
	(b)	Write a short note on metal forming process with its merits and demerits.	**04**
	(c)	Mention the process steps involved in high velocity forming of metals and bring out its positive features, limitations and applications.	**07**

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