Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII EXAMINATION – SUMMER 2016

Subject Code:181903 **Date:07/05/2016**

Subject Name:Production Technology

Time:10:30 AM to 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Compare Orthogonal and Oblique cutting.	**07**
	(b)	Explain tool designation for single point cutting tool with neat sketch. Discuss the importance of different tool angles.	**07**
Q.2	**(a)**	Prove that: $\tan ø = r \cos \alpha / (1 - r \sin \alpha)$	**07**
	(b)	In an orthogonal turning operation on a Lathe the following data were obtained: Cutting force = 120kg, Feed force = 30kg, Back rake angle = 15^0, Feed rate = 0.2mm/rev., Chip thickness = 0.3 mm, Cutting speed = 100 m/min, Workpiece diameter=120 mm, Depth of cut = 0.4 mm. Calculate Chip thickness ratio, Shear angle, Friction angle and Coefficient of friction.	**07**
		OR	
	(b)	Define tool life and explain the factors affecting it.	**07**
Q.3	**(a)**	Differentiate between gear forming and gear generating methods	**07**
	(b)	How the Presses are classified? Explain the methods of reducing the force requirement in press work.	**07**
		OR	
Q.3	**(a)**	Explain thread rolling process.	**07**
	(b)	Differentiate between a jig and a fixture. Explain C-clamp with figure.	**07**
Q.4	**(a)**	List various principles of location and explain the 3-2-1 Principal of Location with neat sketches.	**07**
	(b)	Discuss the term: (i) Fool proofing (ii) Interchangeability.	**07**
		OR	
Q.4	**(a)**	Describe combination die with neat sketch.	**07**
	(b)	Write short note on (i) center of pressure (ii) Scrap strip Layout.	**07**
Q.5	**(a)**	Classify various unconventional machining processes.	**07**
	(b)	Explain USM process with neat sketch.	**07**
		OR	
Q.5	**(a)**	Compare the merits and demerits of Turret and Capstan lathes with a conventional engine lathe.	**07**
	(b)	What is transfer machine? List the essential component of a transfer machine and explain any two in detail.	**07**

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