Seat No._____ Enrolment No.:_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE-SEMESTER VIII - EXAMINATION-Winter 2014

Subject Code: 181903 **Date:** 02/12/2014

Subject Name: Production Technology

Time: 02:30 pm - 05:00 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)**	Derive the Taylor's equation for tool life.	**07**
	(b)	What are chip breakers? Explain them briefly. If they are not used what adverse effects chip can produce on the work, tool and surroundings?	**07**
Q.2	**(a)**	What are the different methods of gear manufacturing? List the methods and explain any one.	**07**
	(b)	Prove that: $\tan ø = r \cos \alpha / (1 - r \cos \alpha)$	**07**
		OR	
	(b)	What are crater wear and flank wear? Explain.	**07**
Q.3	**(a)**	Explain Laser beam machining process in detail.	**07**
	(b)	What are the different types of thread manufacturing processes? Explain with neat sketch.	**07**
		OR	
Q.3	**(a)**	Describe water jet machining process with the help of neat sketch. State its advantages and application.	**07**
	(b)	What are common ejecting mechanisms used in power presses? Describe.	**07**
Q.4	**(a)**	Describe the common bending operations performed on presses.	**07**
	(b)	Compare the merits and demerits of Turret and Capstan lathes with a conventional engine lathe.	**07**
		OR	
Q.4	**(a)**	Explain the principle of 'Six point location'.	**07**
	(b)	Explain with the principle of EDM. State characteristics of dielectric fluid.	**07**
Q.5	**(a)**	Explain the different machine tool structures.	**07**
	(b)	Differentiate between a jig and a fixture. Explain one clamping device.	**07**
		OR	
Q.5	**(a)**	Define machinability and explain variables affecting it.	**07**
	(b)	Describe the methods of punch support.	**07**

****