Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI (NEW) - EXAMINATION – SUMMER 2018

Subject Code:2161909 **Date:03/05/2018**

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.**

			MARKS
Q.1	**(a)**	What is meant by clearance in press operation? Why is it important in shearing operation?	**03**
	(b)	Draw a neat sketch of single point cutting tool.	**04**
	(c)	What do you understand by orthogonal and oblique cutting? How do they differ from each other?	**07**
Q.2	**(a)**	What is meant by fool proofing as applied to jigs and fixtures?	**03**
	(b)	What are crater wear and flank wear.	**04**
	(c)	How is the chip formed in metal cutting? Explain the terms shear plane and shear zone.	**07**
		OR	
	(c)	How many types of chips are formed in metal cutting? Which factors are responsible for formation of these different types of chips?	**07**
Q.3	**(a)**	What do you understand with the term tool life?	**03**
	(b)	Differentiate between gear forming and gear generating methods.	**04**
	(c)	What is cutting fluid? Explain purposes and properties of cutting fluids.	**07**
		OR	
Q.3	**(a)**	What are the main factors which influence tool life?	**03**
	(b)	State various gear finishing processes. Explain any one.	**04**
	(c)	Write several techniques for determining tool chip contact temperature. Describe the tool/work thermocouple method for measuring temperature.	**07**
Q.4	**(a)**	What are the main elements of jigs and fixtures?	**03**
	(b)	Discuss characteristics of cutting tool material.	**04**
	(c)	What is six point location principle? Explain it with the help of sketches.	**07**
		OR	
Q.4	**(a)**	What are the main advantages of using jigs and fixtures in mass production?	**03**
	(b)	Discuss the regions of heat generation in metal cutting.	**04**
	(c)	Describe the degrees of freedom of a work piece located in space with neat sketch. Discuss location of cylinder resting on V block.	**07**
Q.5	**(a)**	What are the various ways by which press can be classified?	**03**
	(b)	Differentiate between a progressive die and a combination die.	**04**
	(c)	Explain the principle of ultrasonic machining. Discuss advantages and disadvantages of ultrasonic machining.	**07**
		OR	
Q.5	**(a)**	Classify non conventional machining processes.	**03**
	(b)	Discuss advantages and disadvantages of electrical discharge machining.	**04**
	(c)	Explain the various methods of reducing cutting force requirement in press work.	**07**

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