

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2131903****Date: 31/05/2017****Subject Name: Manufacturing Process-1****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	Answer following short questions	14
	1 What is “chip thickness ratio”?	
	2 Define the term ‘machining’.	
	3 What do you mean by term ‘taper’?	
	4 Define term ‘cutting speed’ as applied to a lathe machine.	
	5 What do you mean by grinding process?	
	6 What do you mean by ‘depth of cut’ applied to drilling operation?	
	7 Define term ‘feed’ as applied to a milling machine.	
	8 Define term ‘MRR’ (material removal rate).	
	9 What is ‘counter boring’?	
	10 What do you mean by indexing?	
	11 Why boring operation is required after drilling operation?	
	12 What is grinding wheel?	
	13 Define gang milling operation.	
	14 Why nose radius is provided in single point cutting tool?	
Q.2	(a) List various work holding devices and attachments use in milling machine.	03
	(b) Give the comparison between a turret lathe and capstan lathe.	04
	(c) Explain various types of chucks used on lathe machine.	07
	OR	
	(c) Write advantages, limitations and applications of “Broaching-Machines”.	07
Q.3	(a) List the common operations which can be carried out on lathe.	03
	(b) State the conditions under which use of positive and negative rake angles are recommended.	04
	(c) With the help of figure explain ‘Crank and slotted link quick return Mechanism.	07
	OR	
Q.3	(a) Give classification of milling machine.	03
	(b) Draw a line sketch diagram of lathe machine and indicate principle parts on it.	04
	(c) Enlist various Milling Operations. Discuss the following operations. 1. Straddle Milling 2. Gear Milling 3. Face Milling	07
Q.4	(a) What is the principle of working of shaper?	03
	(b) Explain types of motions in machine tools with examples.	04
	(c) List various taper turning methods use in lathe machine and explain taper turning by setting over the tail stock.	07
	OR	
Q.4	(a) Write specifications of radial drilling machines.	03
	(b) State difference between up milling and down milling.	04

- (c) Classify drills. Explain nomenclature of twist drill with neat sketch. **07**
- Q.5** (a) Explain the following terms. **03**
i) Glazing ii) Loading iii) Dressing
- (b) State difference between planer and shaper. **04**
- (c) List various types of planers. Compare in detail Shaper and planer. **07**

OR

- Q.5** (a) Give classification of machining process. **03**
- (b) What are the advantages of grinding process over other cutting processes? **04**
- (c) With the help of figure explain 'Hydraulic shaper mechanism. **07**
