

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:2131903

Date:21/05/2018

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 (a) Define the following terms used in lathe operations: (1) Cutting speed (2) Depth of cut (3) Machining time	03
(b) What is boring operation? Sketch a boring tool	04
(c) Give detailed classification of machine tools with their application	07
Q.2 (a) What is manufacturing process? List types of manufacturing processes	03
(b) List the methods of taper turning on lathe machine. Explain form tool method of taper turning on lathe machine	04
(c) Write a comprehensive note on various types of motions in machine tools	07
OR	
(c) With the help of neat diagram describe the following processes on lathe machine: (1) Finish turning (2) Drilling (3) Counter sinking	07
Q.3 (a) Explain knurling operation on lathe machine with positions of work piece and tool	03
(b) What is mandrel? Discuss use of mandrel in manufacturing with suitable example	04
(c) Draw a neat sketch of single point cutting tool & explain important tool signature	07
OR	
Q.3 (a) Discuss functioning of clapper box used in shaper machine	03
(b) Explain broaching operation with neat diagram	04
(c) Derive expression for shear angle & chip thickness ratio	07
Q.4 (a) With neat sketch explain the method of testing parallelism of spindle axis with lathe bed	03
(b) Differentiate three jaw and four jaw chuck	04
(c) Write names of various types of drilling machines & explain any one with neat sketch	07
OR	
Q.4 (a) Explain quick return mechanism used in shaper machine with neat sketch	03
(b) Differentiate shaper machine and planner machine	04
(c) With neat diagram explain working of column type planner machine	07
Q.5 (a) What is indexing? Why is it required?	03
(b) Explain straddle milling and gang milling with neat sketch	04
(c) Explain principles of up-milling and down-milling with neat sketch	07
OR	
Q.5 (a) What is dressing of grinding wheel? To change shape of grinding wheel which operation is required?	03
(b) Explain centreless internal grinding operation with neat diagram	04
(c) Explain types of bonding process of abrasives with grinding wheel (any three)	07
