

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– III (New) EXAMINATION – WINTER 2019****Subject Code: 2131903****Date: 28/11/2019****Subject Name: Manufacturing Process-1****Time: 02:30 PM TO 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) What is Boring Process? Compare Boring and Reaming process. 03
(b) Explain Horizontal Boring Machine with neat sketch. 04
(c) Explain Different Types of Broaching Machines with neat sketch. 07
- Q.2** (a) Explain the working Principal of Shaper machine with neat sketch. 03
(b) Write down difference between shaper and planer Machine. 04
(c) Explain Radial drilling machine with neat sketch. 07
- OR**
- (c) Explain any six operations performed on drilling machine with neat sketch. 07
- Q.3** (a) What is dressing of grinding wheel? Which operation is required to change shape of grinding wheel? 03
(b) Explain centreless internal grinding operation with neat diagram. 04
(c) Derive expression for shear angle & chip thickness ratio in Tool Geometry. 07
- OR**
- Q.3** (a) What is an Abrasive? How are abrasive Classified? 03
(b) Enlist and explain various abrasives used in grinding wheels. 04
(c) What is Tool Signature and Tool Geometry? Explain importance of tool angles for single point cutting tool in brief. 07
- Q.4** (a) Explain the difference between three jaw chuck and four jaw chuck. 03
(b) Explain following parts of a lathe by neat sketches:(i) Lathe Bed (ii) Carriage (iii) Headstock (iv) Tailstock 04
(c) Name different methods of taper turning? Describe any one of these methods using neat sketch. 07
- OR**
- Q.4** (a) Describe any two work holding devices used on the lathe. 03
(b) Using neat sketches, describe any four operations that can be carried on lathe machines. 04
(c) Explain Thread cutting operation on lathe using gear train and chasing dial. 07
- Q.5** (a) Differentiate between up milling Process and down milling Process. 03
(b) What is indexing? Describe direct indexing, with example. 04
(c) With the help of a neat sketch explain the column and knee type milling machine and name its main parts. 07
- OR**
- Q.5** (a) State the working principle of milling machine with Neat sketch. 03
(b) Explain any four types of milling operations using neat sketches. 04
(c) Explain any one Alignment test of milling machine with neat sketch. 07
