

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2019****Subject Code: 2133404****Date: 11/06/2019****Subject Name: Basic Manufacturing Processes****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) Explain principle of Lathe and name some operations which can be carried out on a lathe **03**
(b) Write a short note on Production process. **04**
(c) What is the purpose of chuck? List out various types of chucks used in the lathe? Explain any two with neat sketches. **07**
- Q.2** (a) What is the use of ratchet & pawl mechanism? **03**
(b) State and explain the working principle of a planer **04**
(c) Draw a neat diagram of a shaping machine and explain its important parts. **07**
- OR**
- (c) Differentiate between Shaper, Planer and Slotter. **07**
- Q.3** (a) Define 'cutting speed' in a drilling machine. **03**
(b) Write short notes on following: a) Counter boring, b) Tapping **04**
(c) Write a torque Calculation for Speed, Feed and Depth of cut for drilling machine. **07**
- OR**
- Q.3** (a) Name any four work holding devices used in a drilling machine. **03**
(b) What is boring? Sketch a boring tool. **04**
(c) Draw and explain a bench drilling machine. **07**
- Q.4** (a) Name four work holding devices in a milling machine. **03**
(b) What are the different milling machine operations? **04**
(c) What is indexing? Describe direct indexing, with examples. **07**
- OR**
- Q.4** (a) Define the following terms used in milling operations. **03**
a) Cutting speed
b) Feed
c) Machining time
(b) What are the differences between a plain milling machine and a universal milling machine? **04**
(c) Explain in details Gear cutting using a milling machine with the Procedure neat sketch. **07**
- Q.5** (a) What is meant by a 'universal' grinder? How does it differ from a plain grinder? **03**
(b) List any four operations performed by a grinding machine and explain any one in details. **04**
(c) What is an Abrasive? How are abrasive Classified? Enlist and explain various abrasives used in grinding wheels. **07**

OR

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| Q.5 | (a) | What are the reasons for chattering? | 03 |
| | (b) | Write down the application and purpose of Grinding. | 04 |
| | (c) | Explain a surface grinder with a diagram. | 07 |

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