

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV(NEW) EXAMINATION – WINTER 2022****Subject Code:3141908****Date:17-12-2022****Subject Name:Manufacturing Processes****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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Give the classification of Machine Tools. **03**
 (b) Explain working and auxiliary motions in machine tools with diagram. **04**
 (c) Illustrate single point cutting tool geometry and its signature with sketch. **07**

- Q.2** (a) List out all specifications of Lathe machine. **03**
 (b) Explain any six operations carried out on lathe machine. **04**
 (c) Describe alignment test of Lathe Machine tools with a neat diagram. **07**

OR

- (c) Elaborate Capstan and Turret Lathes. **07**

- Q.3** (a) Give any four field operations / applications of drilling machine. **03**
 (b) Illustrate any five operations carried out on drilling machine. **04**
 (c) Describe Horizontal boring machine with a neat sketch. **07**

OR

- Q.3** (a) Explain taper turning methods of Lathe machine. **03**
 (b) Differentiate between counter boring and counter sinking operations in drilling machine. **04**
 (c) Elaborate thread cutting operation on lathe machine using gear trains. **07**

- Q.4** (a) Classify milling machine as per field of applications. **03**
 (b) Discuss and explain any six operations carried out on milling machine. **04**
 (c) Describe Knee and column Vertical Milling machine with a neat sketch. **07**

OR

- Q.4** (a) Discuss about Indexing mechanism of Milling machine. **03**
 (b) Demonstrate milling cutters with its line diagram and applications **04**
 (c) Explain shaper machine with all the details and operations. **07**

- Q.5** (a) Give the classification of Planner, Shaper and Slotter Machine tools. **03**
 (b) Discuss about specifications of Planner and Shaper machine. **04**
 (c) Illustrate Reciprocating sawing machine with a neat sketch and applications. **07**

OR

- Q.5** (a) Explain different types of grinding processes. **03**
 (b) Illustrate about center less grinders with its advantages and limitations. **04**
 (c) Describe grinding wheel characteristics and wheel selection procedure in details. **07**
