

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. Sem-III Regular / Remedial Examination December 2010

Subject code: 131903**Subject Name: Manufacturing Process I****Date: 18 /12 /2010****Time: 10.30 am – 01.00 pm****Instructions:****Total Marks: 70**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Write classification of milling machine. Explain principal parts of column & knee type horizontal milling machine with neat sketch **07**
- (b) Enumerate various milling operations. Explain any three of them with neat sketch. **07**
- Q.2** (a) What is quick return motion mechanism? Explain hydraulic type quick return motion mechanism used in shaper machine with neat sketch along with its advantages and disadvantages. **07**
- (b) Explain principal parts of standard planner with neat sketch. Also describe various differences between shaper & planner. **07**
- OR**
- (b) Classify boring machine. Explain horizontal boring machine & jig boring machine with neat sketch. **07**
- Q.3** (a) Classify sawing machine. Explain vertical band saw machine with neat sketch. Describe various applications of sawing machine. **07**
- (b) Classify broaching machine. Explain push and pull type broaching with neat sketch. Describe various advantages and limitations of broaching machine. **07**
- OR**
- Q.3** (a) Classify drills. Explain nomenclature of twist drill with neat sketch & Write advantages of twist drill. **07**
- (b) Enumerate various operations carried out on drilling machine. Explain any four with neat sketch. **07**
- Q.4** (a) Enumerate different types of drilling machine. Explain gang drilling machine and multi spindle drilling machine with neat sketch. **07**
- (b) Explain grinding process with neat sketch. What are the special features & issues to be addressed by manufacturing engineer? **07**
- OR**
- Q.4** (a) Explain centreless grinding process with neat sketch & standard work feeding methods for centreless grinding with neat sketch. **07**
- (b) Write a note about grinding wheel parameters influencing the process in brief. Also write standard marking system for grinding wheel with example & manufacturing of grinding wheel. **07**
- Q.5** (a) Explain difference between capstan & turret lathe. Also explain turret indexing mechanism and bar feeding mechanism both with neat sketch. **07**
- (b) Enumerate operations carried out on lathe. Explain 'setting of tailstock centre for taper turning' operation and 'thread cutting' operation both with neat sketch. **07**
- OR**
- Q.5** (a) Explain parts of engine lathe & alignment tests for lathe in brief with neat sketch. **07**
- (b) Classify machine tools in detail. Explain types of motions in machine tools with examples. **07**
