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GUJARAT TECHNOLOGICAL UNIVERSITY PDDC - SEMESTER-IV • EXAMINATION - WINTER • 2014

Subject Code: X41901 Date: 24-12-2014 **Subject Name: Manufacturing Process-I** Time: 02:30 pm - 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) Define: Manufacturing. Write classification of manufacturing of processes. 07 (b) Draw primary working and auxiliary motion for shaping, milling and grinding 07 operation. Draw neat sketch of various mandrel and collets used in lathe operations. 07 **Q.2** (a) Write short note on capstan and turret lathe. 07 07 **(b)** Explain quick return mechanism used in shaper with neat sketch. 0.3 (a) Give classification of shaper and planer machine. Differentiate between shaper 07 and planer. **(b)** Explain vertical milling machine with sketch. What is straddle milling? **07** 0.3 Draw schematic diagram for helical milling. 07 Give grinding wheel designation and explain in detail. 07 (a) List principle types of sawing machine. Describe reciprocating saw. 0.4 **07** List method of taper turning on lathe machine. Explain any of them. **07** OR 07 0.4 Write specification of grinding, milling and lathe machine. (a) Explain deep hole drilling detail. **(b) 07 Q.5** (a) Write difference between following. **07** (a) 3-jaw chuck and 4-jaw chuck (b) Steady rest and follower steady (c) Gang milling and string milling **(b)** Explain alignment test for radial drill machine. **07** OR Draw broaching tool. Write advantages and limitations of broaching. 0.5 07 **(b)** Give difference between following: **07** (a) Counter boring and counter shrinking (b) Surface grinding and cylindrical grinding (c) Up milling and down milling
