

GUJARAT TECHNOLOGICAL UNIVERSITY
PDDC - SEMESTER – VII • EXAMINATION – WINTER 2012

Subject code: X 71902**Date: 27/12/2012****Subject Name: Production Technology****Time: 10.30 am - 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.

- Q.1 (a)** Sketch the elements of the single point cutting tool and explain significance of each of them. **07**
- (b)** Define the tool life and explain the factors affecting the tool life. **07**

- Q.2 (a)** List the common gear manufacturing methods and explain any three of them. **07**
- (b)** Following data was obtained during an orthogonal cutting operation on a seamless tube of 38mm outside diameter with a HSS tool. Cutting speed: 0.2 m/s, Rake angle: 20°, Feed rate: 0.128 mm/rev, Length of continuous chip in one revolution: 64 mm, Cutting force: 101 N, Feed force: 40 N. Find the velocities of shear and chip flow. **07**

OR

- (b)** How does Oblique cutting differ from orthogonal cutting? Discuss different types of chips. **07**

- Q.3 (a)** What is location system? Explain different types of locators. **07**
- (b)** Classify the types of Presses. **07**

OR

- Q.3 (a)** Define jigs and fixtures and discuss different types of clamping devices. **07**
- (b)** Sketch and explain different types of drill bushes. **07**

- Q.4 (a)** With sketch explain different types of forming operations. **07**
- (b)** Classify common machine tool drives. **07**

OR

- Q.4 (a)** List the principal requirements of the guide ways and explain various types of slide ways. **07**
- (b)** Compare capstan lathe with turret lathe and explain turret tool layout. **07**

- Q.5 (a)** List the chief draw backs of the conventional machining processes which lead to develop unconventional machining processes. **07**
- (b)** With schematic set up explain working of Water Jet Machining and specify its advantages and disadvantages. **07**

OR

- Q.5 (a)** With schematic set up explain working of Electro Chemical Machining and specify its advantages and disadvantages. **07**
- (b)** List the advantages and disadvantages of unconventional machining processes. **07**
