

GUJARAT TECHNOLOGICAL UNIVERSITY**ME - SEMESTER– II (Old course)• REMEDIAL EXAMINATION – SUMMER 2015****Subject Code: 1720807****Date:15/05/2015****Subject Name: AUTOMATION IN PRODUCTION AND HYDRAULIC CONTROL****Time: 02:30 pm to 5:00 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 automation. Compare fixed, programmable and flexible automation. 07**
- (b) Explain the situations in which manual labor is preferred over automation? 07**
- Q.2 (a) Explain vibratory ball feeder. 07**
- (b) Explain automation principles and strategies. 07**
- OR**
- (b) Discuss the influence of following parameters on mean conveying velocity of vibratory bowl feeder: 07**
- (i) Frequency (ii) Vibration angle (iii) Track angle**
- Q.3 (a) Classify automated assembly systems. 07**
- (b) Write a short-note on: machining centers. 07**
- OR**
- Q.3 (a) Describe with sketch any one of the work piece handling system stating application 07**
- (b) Explain any one type of hopper feeder. 07**
- Q.4 (a) Explain with neat sketch hydraulic accumulator. 07**
- (b) Write a short-note on: Synchronizing circuits. 07**
- OR**
- Q.4 (a) Name and draw symbols for any seven hydraulic elements for hydraulic control. 07**
- (b) Explain sequencing valve with symbol and circuit diagram. 07**
- Q.5 (a) Sketch hydraulic circuit for a drilling machine, naming each element. 07**
- (b) Describe with neat sketch construction and working of compound relief valve. 07**
- OR**
- Q.5 (a) Compare close centre & open centre hydraulic circuits. 07**
- (b) State advantages and limitations of hydraulic control system. 07**
