

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-III EXAMINATION – WINTER 2015

Subject Code:133402**Date:21/12/2015****Subject Name: Electrical Drives & Control****Time: 2:30pm to 5:00pm****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) Explain Basic elements of an electric drive with figure and advantages of electric drive. **07**
(b) Explain heat and cooling curves. **07**
- Q.2** (a) Explain torque slip characteristics of 3-phase induction motor. **07**
(b) Explain electric braking of DC series motor. **07**
- OR**
- (b) A 4 pole, 3 Phase, 50 Hz, star connected induction motor has a full load slip of 4%. Calculate full load speed of the motor. **07**
- Q.3** (a) Explain DOL starter. **07**
(b) Explain necessity of starter in DC motors and Basic arrangement of starter. **07**
- OR**
- Q.3** (a) Explain Autotransformer starter. **07**
(b) Explain the necessity of starter in 3-phase induction motor. **07**
- Q.4** (a) Explain ward-Leonard system of speed control. **07**
(b) Explain slip power recovery for AC drives. **07**
- OR**
- Q.4** (a) Explain speed control for DC shunt motor. **07**
(b) Compare Half controlled and Full controlled rectifiers. **07**
- Q.5** (a) Explain Single phase half wave controlled rectifier with resistive load. **07**
(b) Explain choppers. **07**
- OR**
- Q.5** (a) Explain Single phase full convertor with resistive load. **07**
(b) Explain closed loop control of DC drives. **07**
