

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- V(OLD) EXAMINATION – SUMMER 2019****Subject Code:150906****Date:10/06/2019****Subject Name:Electrical Power Utilization And Traction****Time:02:30 PM TO 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) Explain factors effecting selection of drive **07**
(b) What do you mean by electric drive. Explain advantages of electric drive **07**
- Q.2** (a) Explain speed control of dc shunt motor using flux control method **07**
(b) Explain torque- slip characteristic of three phase induction motor **07**
- OR**
- (b) Explain plugging braking of dc shunt motor **07**
- Q.3** (a) Compare AC and DC traction system. **07**
(b) Explain the terms dead weight ,accelerating weight and adhesive weight in a locomotive. Explain the factors affecting specific energy consumption **07**
- OR**
- Q.3** (a) Explain speed control methods of three phase induction motor **07**
(b) Draw typical speed time curve for main line and derive expression for max speed using trapezoidal speed time curve **07**
- Q.4** (a) Explain advantages of electric heating **07**
(b) Explain eddy current heating **07**
- OR**
- Q.4** (a) Explain types of resistance welding **07**
(b) Explain Ajax Wyatt furnace. **07**
- Q.5** (a) Explain laws of illumination **07**
(b) Explain electro deposition and explain factors affecting it. **07**
- OR**
- Q.5** (a) State and explain faraday's laws of electrolysis. **07**
(b) Explain the principle of operation of a sodium vapor lamp **07**
