

Roll No.

24421

**B. Tech. 7th Semester (EE) (Common
with Special Chance)**

Examination – December, 2019

ELECTRICAL DRIVES AND CONTROL

Paper : EE-403-F

Time : Three Hours] [Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions, selecting at least *one* question from each Section. Question Number 1 is *compulsory*. All questions carry equal marks.

1. (a) List functions of power modulator.
- (b) Draw steady state load torque speed curves.
- (c) What do you mean by PLL ? Explain.
- (d) Explain Regenerative Braking.
- (e) Explain the application of drives in textile mills and its characteristics.

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SECTION – A

2. State and draw essential parts of electric drives with functions of power modulator in detail.
3. (a) Describe microprocessor based control of electric drives.
- (b) Explain closed loop control of drives.

SECTION – B

4. (a) Describe nature and classification of load torques.
- (b) Explain components of Load Torques.
5. (a) State and explain the disadvantages of using a motor of wrong rating.
- (b) How moment of inertia of the fly wheel can be determined ?

SECTION – C

6. Describe Energy Losses during transient operations.
7. Write technical notes :
 - (a) Switched reluctance machine drives.
 - (b) Permanent magnet brushless Dc drives.

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SECTION - D

8. (a) When operating in regenerative braking, the induction motor slip should not be allowed to exceed the breakdown slip. Why?

(b) Describe static Kramer system.

9. Describe rotor resistance control in I.M. drives.

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