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**EE-703-GS**

**B.E. VII Semester**

Examination, December 2020

**Grading System (GS)**

**Electrical Drives**

*Time : Three Hours*

*Maximum Marks : 70*

**Note:** i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Explain constant power and constant torque drive with appropriate applications.  
b) Discuss in brief various classifications of electric drive.
2. Discuss the vector control for the induction motor drives with the help of block diagram and phasor diagram.
3. a) Explain the operation of dc separately excited motor fed by 1- $\phi$  full converter during motoring mode.  
b) Explain the concept of Rheostat braking in
  - i) Separately excited d.c. motor
  - ii) Series excited d.c. motor.
4. a) What are the difference between voltage source inverter and current source inverter? Explain it .  
b) Discuss about the variable frequency control of induction motor by voltage source inverter.

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5. a) Explain static rotor resistance control method for controlling the speed of induction motor and compare it with conventional control methods.  
b) Draw and explain closed loop Scherbius drive.
6. Describe the construction, working principle with the help of circuit diagram for bipolar PMBLDC drive and compare its operation with unipolar drive.
7. a) Discuss the vector control drive.  
b) How stepper motor is different than SRM? Discuss operation of variable reluctance stepper motor.
8. Write short notes on any two of the following:
  - a) Steel and cement plants - case studies
  - b) Textile and paper mills
  - c) Static Kramer drives
  - d) Cyclo-Converter fed drive

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