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**EE-8001-CBGS**

**B.E. VIII Semester**

Examination, December 2020

**Choice Based Grading System (CBGS)**

**Advanced Electrical Drives**

*Time : Three Hours*

*Maximum Marks : 70*

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

ii) All questions carry equal marks.

1. Explain the operation of a single phase semi controlled converter fed separately excited D.C motor drive with proper circuit diagram and waveforms.
2. Explain the following.
  - a) Closed loop controllers
  - b) Pulse tachogenerator
3. Discuss the Chopper fed D.C. drives with regenerative braking. Show how it operate for four quadrant operation with the help of diagram.
4. Explain the vector control used for the synchronous motor drive in detail with Phasors and obtain expressions also.
5. Give the circuit diagram of Bipolar PMBLDC motor drive. Explain its operating principle and compare it with unipolar drive circuit of PMBLDC in detail.

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6. Explain the following (any two).
  - a) Harmonic elimination techniques in convertors
  - b) Line side pollution
  
7. Explain permanent magnet brushless DC operation in detail with proper circuit diagram and waveforms.
  
8. Explain the following:
  - a) AC and DC Servomotor
  - b) Microstepping

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