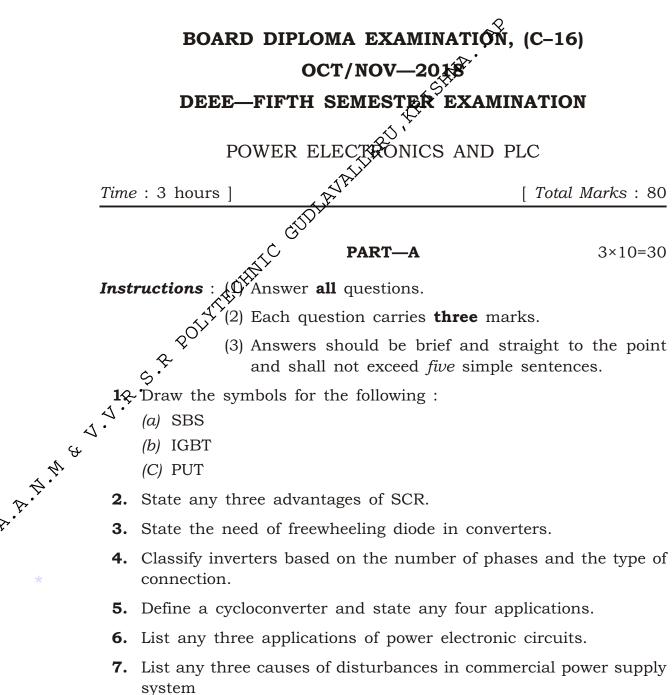


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- 8. Define the following terms :
  - (a) System
  - (b) Control system
- 9. State any three advantages of PLC.
- **10.** Draw the ladder diagram for logic NOR gate.
- PART-B 10×5=50 Instructions : (1) Answer any five quest (2) Each question carries ten marks. (3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer? **11.** Explain the of TRMC explain V-I working and its characteristics. construction, working and V-I characteristics of **12.** Explain the SCR. Explain the working of single-phase half-wave fully controlled 13. converter under R-L load with neat wave form. (a) Explain the working principle of chopper. 14. 5 (b) Explain the working of single-phase bridge inverter. 5  $\checkmark$  **15.** (a) Explain the speed control of induction motor by using voltage-frequency (V/F) control. 5 (b) Explain the speed control of DC shunt motor using converter with neat waveforms. 5 **16.** (a) Explain an open-loop control system with one example. 5 (b) List any five applications of closed-loop control system. 5 17. (a) State the requirements of automation. 5 (b) Draw the ladder diagram for AND, OR, NOT gates. 5 **18.** Draw the block diagram of a PLC and explain in brief. 10

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