Sub. Electronics & Electrical Engg.
22/12/08

VT Oct 08-398

Con. 5819–08. (REVISED COURSE) RC–8792

(3 Hours) [Total Marks : 100

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions from remaining **six** questions.
(3) Assume **suitable** data if **necessary**.
(4) **Figures** to the **right** indicate **full** marks.

1. Attempt any **four** :– 20
   (a) Explain armature reaction in D.C. Generator.
   (b) State the significance of back emf in D.C. moter.
   (c) Why single phase induction motor is not self starting ?
   (d) Explain voltage regulation of an alternator.
   (e) State and explain opto-electronic devices.

2. (a) Explain the Internal and External characteristics for D.C. generator. 10
   (b) A 250 volt d.c. shunt motor has armature resistance of 0·25 ohm, on load it takes an armature current of 50 Amp. and runs at 750 rpm. If the flux of the motor is reduced by 10% without changing the load torque, find the new speed of the motor. 10

3. (a) Explain the working of single-phase shaded pole induction motor. 10
   (b) The power input to the rotor of 440 volt, 50 Hz, 6-pole, 3-phase I.M. is 80 kW. The rotor electromotive force is observed to make 100 complete alternations per minute. 10
   Calculate :–
   (i) the slip
   (ii) the rotor speed
   (iii) the rotor copper loss per phase.

4. (a) Explain the method of starting for synchronous motor. 5
   (b) Write a short note on 'V-curves' for synchronous motor. 5
   (c) Derive the equation for induced emf in alternator. 10

5. Write short notes on :– 20
   (a) Instrument Transformers
   (b) Relays
   (c) Circuit Breakers
   (d) HRC Fuses.

6. (a) Explain Induction and Dielectric heating. 10
   (b) Draw and explain the block diagram of CRO. Describe the applications of a CRO. 10

7. (a) Explain the application of SCR for speed control of – 10
   (i) AC motor
   (ii) DC series motor.
   (b) Explain the internal architecture of 8085 microprocessor. 10

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