

REVISION 2010
SUB CODE:3038

THIRD SEMESTER EXAMINATIONS IN ENGINEERING/ TECHNOLOGY

ELECTRICAL & ELECTRONICS ENGINEERING
(Common to AE,ME,TD)

Time :3 Hrs

Maximum marks: 100

PART A

(Answer all questions .Each questions carry 2 marks)

- I
1. List any two methods of charging of Lead-acid cell?
 2. Name two applications of DC series motor.
 3. Define the transformation ratio.
 4. Name the different types of rotors in an alternator.
 5. List any two applications of SCR?

PART B

(Answer any five questions .Each questions carry 6 marks)

- II
1. Classify the dc generators based on field connection .Show connection diagram of each.
 2. Derive emf Equation of transformer.
 3. A 230V 50Hz AC supply is applied to a coil of 0.06H inductance and 2.5Ω resistance connected in series with $6.8 \mu\text{F}$ capacitor .Calculate (i) Impedance (ii) Current (iii) power factor (iv) power consumed.
 4. Draw and explain the constructional details of Permanent magnet moving coil instruments.
 5. Describe the working principle of fluorescent lamp with connection diagram.
 6. Explain the working principle of SCR.
 7. Describe the advantages of universal gates

PART C

(Answer any four full questions, one from each unit)

UNIT I

- III
- | | |
|--|---|
| (a) Explain the constructional details of Lead-acid cell | 7 |
| (b) Explain the constructional details of DC generator | 8 |

Or

- IV (a) State the necessity of a dc motor starter. Also draw and explain Dc shunt motor starter 15

UNIT II

- V (a) Explain three phase star and delta connections 7
(b) A 200KVA, 6600/400V, 50 Hz single phase transformer has 80 turns on the secondary .Calculate (i) Primary and secondary currents
(ii) Number of primary turns (iii) the maximum value of flux 8

Or

- VI (a) Define phase sequence and phase difference in three phase system 6
(b) Explain the working principle of autotransformer 9

UNIT III

- VII (a) Draw and explain *DOL* starter 10
(b) List the various applications of electric heating 5

Or

- VIII (a) Explain the constructional details of three phase induction motor 5
(b) Explain the working principle of Dynamo meter type watt meter with a neat diagram. 10

UNIT IV

- IX (a) Explain the Common emitter configuration of a BJT with diagram 8
(b) Give circuit diagram, logic symbols and explain functions of logic gates AND, OR, NOT . 7

Or

- XI (a) Draw a neat diagram of full wave rectifier 7
(b) Explain RC coupled amplifier 8