

TED (15) – 3021

Reg. No.

REVISION — 2015)

Signature

THIRD SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY — APRIL, 2017

ELECTRICAL AND ELECTRONICS ENGINEERING

(Common for ME, AU and TD)

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. Define power factor.
2. Name the different types of rotors in an alternator.
3. Define transformation ratio.
4. State equation for power factor in three phase AC two wattmeter method.
5. Draw the circuit symbols of NPN and PNP transistors. (5×2 = 10)

PART — B

(Maximum marks : 30)

II Answer any five questions from the following. Each question carries 6 marks.

1. Explain the working of single loop AC generator with necessary figures.
2. Classify the DC generators based on field connection. Show connection diagram of each only.
3. State the necessity for a starter in DC motor.
4. Explain the classification of transformer based on construction.
5. Draw the constructional details of moving coil instrument and name different parts.
6. Explain half wave rectifier with diagram and in put out put waveform.
7. Describe the advantages of universal gates. (5×6 = 30)

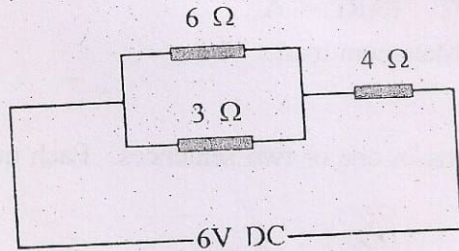
PART -- C

(Maximum marks : 60)

(Answer one full question from each unit. Each full question carries 15 marks.)

UNIT -- I

- III (a) Explain the constructional details of lead-acid cell. 8
- (b) Find the effective resistance and branch current of the given circuit.



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OR

- IV (a) Describe care and maintenance activities for a lead acid battery. 8
- (b) State and explain the expression for power in 3 phase circuit. 7

UNIT -- II

- V (a) Explain the working of a star-delta starter with diagram. 8
- (b) Explain working of an auto transformer with a neat diagram. 7

OR

- VI (a) Classification the DC motors based on field connection with diagrams. 8
- (b) Explain about welding transformer. 7

UNIT -- III

- VII (a) Distinguish between moving iron and moving coil instruments. 8
- (b) Explain working with neat sketch of induction heating. 7

OR

- VIII (a) Describe the working principle of dynamometer types wattmeter. 8
- (b) Explain the principle of dielectric heating. 7

UNIT -- IV

- IX (a) Demonstrate the working of an NPN transistor with a neat diagram.
- (b) Explain about different types of resistors.

OR

- X (a) Explain rectifier action of a center tapped full wave rectifier with a neat circuit diagram.