

TED (10)–3053

(REVISION—2010)

Reg. No.

Signature

THIRD SEMESTER DIPLOMA EXAMINATION IN ELECTRICAL AND
ELECTRONICS ENGINEERING—OCTOBER, 2012

ELECTRONIC DEVICES AND CIRCUITS

[Time : 3 hours

(Maximum marks : 100)

Marks

PART—A

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. Define diffusion current.
2. Describe zener breakdown.
3. Define peak inverse voltage.
4. Describe bandwidth.
5. Draw a tank circuit.

(5x2=10)

PART—B

II Answer *any five* questions. Each question carries 6 marks.

1. Explain the working of a zener diode as a voltage regulator.
2. Draw and explain the VI characteristics of a PN junction diode.
3. Explain the working of a shunt capacitor filter with neat sketches.
4. Draw and explain the working of a 7805 voltage regulator.
5. Explain the working of a single stage CE transistor amplifier with sketch.
6. Explain the working of a RC coupled amplifier with relevant diagrams.
7. Draw and explain astable multivibrator using transistor.

(5x6=30)

PART—C

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

UNIT – I

- III (a) Explain the working of a npn transistor. 8
- (b) Illustrate the behaviour of a PN junction in reverse biased condition. 7

OR

- IV (a) Explain the input output characteristics of a common base configuration of transistor. 10
 (b) List the applications of a diode. 5

UNIT – II

- V (a) Draw and explain the working of a centre tapped full wave rectifier. 8
 (b) Draw and explain the negative and positive clamping circuits. 7

OR

- VI (a) Explain the working of a π filter circuit. 7
 (b) Draw and explain with wave forms the working of a negative and positive series clippers. 8

UNIT – III

- VII (a) Explain the working of a transformer coupled amplifier. 8
 (b) Explain the working of a push pull amplifier. 7

OR

- VIII (a) Name the different amplifier coupling methods. 5
 (b) Explain the working of a single stage power amplifier with sketches. 10

UNIT – IV

- IX (a) Draw and explain the principle of operation of RC phase shift oscillator. 8
 (b) Explain the working of an astable multivibrator using 555. 7

OR

- X (a) Explain the working of schmitt trigger circuit. 10
 (b) State the conditions for sustained oscillation. 5

MADIN Polytechnic College