TED (15/19) -2041
(Revision- 2015/19)

A21-03276

Reg.No…….....
Signature. .....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – APRIL -2021.

BASIC ELECTRONICS

(Maximum Marks : 75) [Time : 2.15 hours]

PART–A

Marks

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

1. Give two examples for active components.
2. Define potential barrier.
3. Define P.I.V.
4. Draw the waveform of full wave rectifier.
5. Draw the symbol of N.P.N and P.N.P transistor. (3x2=6)

PART - B

II Answer **any four** of the following questions . Each question carries 6 marks.

1. Briefly explain the specification of capacitors.
2. Briefly explain the colour coding associated with resistors.
3. Explain the majority and minority carriers in P type and N type materials.
4. Explain zener and avalanche breakdown.
5. Draw and explain the working of half-wave rectifiers.
6. Explain the input characteristics of CE configuration.
7. Derive the relation between α and β.

[4x6 =24]

PART - C

(Answer **any of the three units** from the following. Each full question carries 15 marks)

UNIT I

III (a) Give the different types of fixed resistors and its application. (9)

(b) Compare active and passive components. (6)

OR

IV (a) Explain the working of transformer and give their applications. (9)

(b) Explain ultra-capacitor and give their applications. (6)

UNIT- II

V (a) Explain the principle of operation of PN junction diode with diagram. (9)

(b) Explain extrinsic semiconductor with examples. (6)

OR

VI (a) Explain the working of zener diode and draw its V-I characteristics. (9)

(b) Explain the working of varactor diode. (6)

UNIT- III

VII (a) Draw the circuit of a full wave bridge rectifier and explain its working. (8)

(b) Draw and explain the working of series inductor filter. (7)

OR

VIII (a) Draw and explain the working of half wave voltage doubler. (8)

(b) Draw and explain the working of negative clipper circuit. (7)

UNIT – IV

IX (a) Explain the output characteristics of CB configuration. (8)

(b) Draw and explain the physical structure of BJT. (7)

OR

X (a) Explain the mechanism of current follow in transistor. (9)

(b) Explain the output characteristics of CE configuration. (6)

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