TED (15/19) -3021
(Revision- 2015/19)

A21-07070

Reg.No…….....
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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – APRIL -2021.

ELECTRICAL AND ELECTRONICS ENGINEERING

(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. Define form factor.
2. What are the efficiencies of lead acid battery?
3. List out two starters used for three phase induction motor.
4. List out the two industrial applications of dielectric heating.
5. State the function of rectifier. (3x2=6)

PART - B

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

1. Compare series and parallel electric circuit.
2. Explain the working principle of 3 phase Alternator.
3. Compare core type and shell type transformer.
4. Draw the connection diagram of three-point starter.
5. Explain the constructional details of moving coil instruments.
6. List out examples of active electronic components.
7. Explain the working of bridge rectifier with waveforms.

[4x6 =24]

PART - C

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

UNIT I

III (a) Define following terms on AC circuits.

(i)Frequency (ii)Maximum value

(iii)Average value (iv) R.M.S.Value (7)

(b) Explain the classification of D.C. generators based on field connection. (8)

OR

IV (a) Distinguish between single phase system and three phase system. (8)

(b) List out the various aspects for maintenance of lead acid cell. (7)

UNIT- II

V (a) List the various applications of D.C. motors. (8)

(b) Explain the working of a star-delta starter with neat figure. (7)

OR

VI (a) Explain the working principle of 3 phase induction motor. (8)

(b) Derive the e.m.f equation of single-phase transformer. (7)

UNIT- III

VII (a) Compare moving iron instrument and moving coil instrument. (8)

(b) List out the industrial applications of induction heating. (7)

OR

VIII (a) Explain the working principle of dynamometer types wattmeter. (8)

(b) Explain the principle of dielectric heating. (7)

UNIT – IV

IX (a) List industrial applications of SCR. (7)

(b) What is automation. What are the need for automation. (8)

OR

X (a) Explain the working principle of PNP transistor. (8)

(b) Draw the symbol and truth table of NAND, NOR, OR gates. (7)

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