TED (15) – 3021

Reg. No. .....

(REVISION — 2015)

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2019

ELECTRICAL AND ELECTRONICS ENGINEERING

[*Time* : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. Define form factor.
2. What is ampere-hour efficiency of a cell ?
3. State the use of skewing in rotor construction of three phase induction motor.
4. State any two applications of dielectric heating.
5. State the function of a Rectifier. (5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Define the following.
   (a) Maximum value
   (b) Average value
   (c) RMS value
2. Draw the star connection and find the equation of power in three phase system.
3. Explain the working of a single phase induction motor.
4. Explain the working of a DOL starter.
5. Describe the working of Moving Iron attraction type instruments.
6. Describe the working of PN junction diode in forward bias.
7. Draw the symbol and truth table of NAND and NOR gates. (5×6 = 30)

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Marks

PART — C

(Maximum marks : 60)

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

UNIT — I

III (a) Explain the construction details of DC Generator. 9

(b) Show that the alternating Voltage and Current are inphase in resistive load. 6

OR

IV (a) Classify the D.C. generators based on field connections with diagrams. 7

(b) A star connected 10000V three phase alternator supplying 5000kw at 0.8pf. If the total current remains the same, when the load power factor is raised to 0.9. Find the new output. 8

UNIT — II

V (a) Explain the working of a single phase transformer. 8

(b) Describe the working of D.C. motor. 7

OR

VI (a) Explain the working of welding transformer. 7

(b) Explain the working of a star delta starter with diagram. 8

UNIT — III

VII (a) Explain the working of a moving coil instrument. 8

(b) Describe the working of a direct arc furnace. 7

OR

VIII (a) Explain the power measurement by two watt meter method in three phase AC System with neat diagram. 9

(b) Enlist the applications of dielectric heating. 6

UNIT — IV

IX (a) Explain the working of Centre tapped full wave rectifier with neat figure and input and output wave forms. 9

(b) State the advantages of universal gates. 6

OR

X (a) Explain the working of PNP transistor with neat diagram. 8

(b) Enlist the different type of capacitors used in electronics circuits. 7

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