

TED (15) 3021
(Revision-2015)

N20-09266

Reg.No.....
Signature.....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER-2020

ELECTRICAL AND ELECTRONICS ENGINEERING

[Maximum marks: 75]

(Time: 2.15 Hours)

PART – A

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

1. Define frequency
2. Define transformation ratio
3. What is induction heating?
4. What is deflecting torque in measuring instrument?
5. What is rectifier?

(3 x 2 = 6)

PART – B

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

1. Show that alternating current in an inductor lags applied alternating voltage by 90°
2. Describe the working of lead acid cell.
3. Explain the working of capacitor start single phase induction motor.
4. Distinguish between welding transformer and power transformer
5. Explain the principle of dielectric heating
6. What are the different types of capacitors used in electronic circuits?
7. What are the applications of control system?

(4 x 6 = 24)

PART – C

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

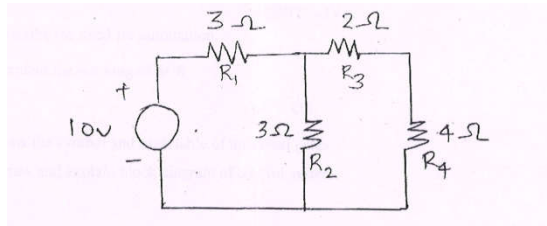
UNIT – I

III.(a) Define the following terms

- (i) Voltage
 - (ii) form factor
 - (iii) Power factor
 - (iv) rms value
- (b) Explain the working of three phase alternator

OR

IV. (a) find effective resistance and voltage across each resistor (8)



(b) Distinguish between star connection and delta connection (7)

UNIT-II

V. (a) Derive the emf equation of transformer. (7)

(b) Draw and explain 3 point starter (8)

OR

VI. (a) Draw and explain DOL starter (8)

(b) Explain the classification of DC motors. (7)

UNIT-III

VII.(a) Explain the working of dynamometer type wattmeter (9)

(b) What are the applications of electric heating (6)

OR

VIII. (a) Explain the working of arc furnace (6)

(b) Explain the construction and working of repulsion type MI instrument. (9)

UNIT-IV

IX. (a) Describe the need for automation. (6)

(b) Explain the working of SCR (9)

OR

X. (a) Draw the symbol and truth table of universal gates (6)

(b) Draw and explain block diagram of control system. (9)
