EDC · 4

TED (15) – 6034 Reg. No.....

(REVISION — 2015) Signature .....

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

ELECTRICAL DRIVES AND CONTROLS

[*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. List any two advantages of electric drive.
2. Write any two method of starting of three phase induction motor.
3. What are the method of electric braking in three phase induction motor ?
4. List out any two starters used to start DC motor.
5. What is solar powered pump drives ? (5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Draw and explain the block diagram of electric drive system.
2. Explain the classification of electric drive system.
3. Draw and explain the speed control by voltage control method.
4. Briefly explain the speed control of synchronous motor from variable frequency source.
5. Draw and explain the chopper controlled DC drives.
6. Explain the different method of speed control of DC motors.
7. Explain the electric drives used in the paper mills. (5×6 = 30)

Marks

PART — C

(Maximum marks : 60)

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

UNIT — I

III (a) Differentiate between electric drives and mechanical drives. 8

(b) Explain the different factors for choice of electric drives. 7

OR

IV (a) Explain the advantages of electric drives. 8

(b) Describe the various components of electric drives with block diagram. 7

UNIT — II

V (a) List out the different method of speed control of three phase induction motor and explain one method with diagram. 8

(b) Draw and explain the current source inverter. 7

OR

VI (a) Explain the different methods of braking of induction motor. 7

(b) List out the various method starting of three phase induction motor and explain one method with diagram. 8

UNIT — III

VII (a) Draw and explain the speed control of DC motor by voltage control method. 8

(b) Explain the Four point starter with neat diagram. 7

OR

VIII (a) Explain the various method of braking of DC shunt motor. 8

(b) Draw and explain the speed control of DC motor by uncontrolled rectifier method. 7

UNIT — IV

IX (a) Explain about electric drives in steel mills. 7

(b) Describe the working of solar powered pump drives with block diagram. 8

OR

X (a) Explain about electric drives used in the coal mine. 7

(b) Explain the electric drives used in the cement mills. 8

EDC · 4

TED (15) – 6034 Reg. No.....

(REVISION — 2015) Signature .....

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

ELECTRICAL DRIVES AND CONTROLS

[*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. List any two advantages of electric drive.
2. Write any two method of starting of three phase induction motor.
3. What are the method of electric braking in three phase induction motor ?
4. List out any two starters used to start DC motor.
5. What is solar powered pump drives ? (5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Draw and explain the block diagram of electric drive system.
2. Explain the classification of electric drive system.
3. Draw and explain the speed control by voltage control method.
4. Briefly explain the speed control of synchronous motor from variable frequency source.
5. Draw and explain the chopper controlled DC drives.
6. Explain the different method of speed control of DC motors.
7. Explain the electric drives used in the paper mills. (5×6 = 30)