

TED(15)-6034
(REVISION-2015)

Reg. No.
Signature

DIPLOMA EXAMINATION IN
ENGINEERING/TECHNOLOGY/MANAGEMENT/COMERCIAL PRACTICE

ELECTRICAL DRIVES AND CONTROLS

Time : 3 hours

(Maximum marks : 100)

Marks

PART- A

(Maximum marks: 60)

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

1. Define electric drives?
2. What are the different method of braking of three phase induction motor?
3. What is the permanent magnet synchronous motor drive?
4. List out the different methods of braking of dc drives
5. What is battery powered electric drives

(5x2=10)

PART-B

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

1. Explain the block diagram of electric drive.
2. Explain the speed control of ac drive by cyclo converter.
3. Explain the speed control of synchronous motor from variable frequency.

4. Draw and explain the various characteristics of dc series motor.
5. Draw and explain the two point starter.
6. Describe the working of solar powered pump drives.
7. Explain the electric drives used in the sugar mills. (5x6=30)

PART-C

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

Unit – I

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|------|--|---|
| III. | (a) Explain the various components of electric drives? | 7 |
| | (b) Explain the advantages of electric drive. | 8 |
| OR | | |
| IV. | (a) Differentiate between electric drives and mechanical drives. | 8 |
| | (b) Explain the power rating of motor for continuous operation at constant speed drives. | 7 |

Unit –II

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|-----|---|---|
| V. | (a) Explain the different methods of starting of three phase induction motor. | 8 |
| | (b) Explain the speed control of ac drive from voltage source inverter. | 7 |
| OR | | |
| VI. | (a) Explain the different method of speed control of three phase induction motor. | 7 |
| | (b) Draw and explain the speed control of ac drive from current source inverter. | 8 |

Unit – III

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|------|---|---|
| VII. | (a) Draw and explain the performance characteristics of dc shunt motor. | 8 |
| | (b) Explain the speed control by controlled rectifier fed dc drives. | 7 |

OR

- VIII. (a) Explain the different method of speed control of dc shunt motors. 7
(b) Explain the operation of chopper controlled dc motor drives. 8

Unit – IV

- IX. (a) Describe the electric drives used in the steel mills. 8
(b) Explain the electric drives used in the petrochemical industry. 7

OR

- X. (a) Describe the electric drives used in the coal mines. 7
(b) Describe the electric drives used in the textile mills. 8
