

**NETTUR TECHNICAL TRAINING FOUNDATION**  
**DIPLOMA IN ELECTRICAL AND ELECTRONICS-CP23**  
**VI SEMESTER REGULAR & SUPPLEMENTARY EXAMINATION-MAY 2023**

**Subject: Industrial Drives & Traction System**  
**Subject Code: CP23602T**

**Total Time: 2 Hr.**  
**Total Marks: 50**

**PART B**

**1.0 ANSWER ANY EIGHT OF THE FOLLOWING** **2\*8=16**

- 1.1 State the functions of a) modulator b) sensing unit in electric drive
- 1.2 Name the methods used to control the speed of the AC motor
- 1.3 Define duty cycle in terms of motor.
- 1.4 What type of fluxes are used in steel industry?
- 1.5 What is the use of gypsum in cement industry? Explain.
- 1.6 Efficiency of motor is influenced by what factors/ strand?
- 1.7 What is firing angle?
- 1.8 Why frequency is less in AC traction transmission lines?
- 1.9 Explain the pros and cons of induction motor in traction system.
- 1.10 What are the factors affecting adhesion coefficient?

**2.0 ANSWER ANY SIX OF THE FOLLOWING** **3\*6=18**

- 2.1 Draw the block diagram of electric drive.
- 2.2 Compare DC drive with AC drive
- 2.3 On the basis of design how is drive classified. Explain
- 2.4 What is the purpose of a) EAF b) BOF in steel industry?
- 2.5 In how many ways traction system is categorized. Explain
- 2.6 Explain the different characteristics of traction motor.
- 2.7 Differentiate the terms electric traction and non-electric traction.
- 2.8 In how many terms electrical braking can be classified?

**3.0 ANSWER ANY FOUR OF THE FOLLOWING** **4\*4=16**

- 3.1 Explain the first and fourth quadrant of electric drive with neat diagram.
- 3.2 Draw a flowchart representation to explain the working of textile industry.
- 3.3 Explain the working of a single phase dual converter
- 3.4 Draw the block diagram of auxiliary converter system
- 3.5 Draw the block diagram of diesel electric traction.
- 3.6 How is single phase converted into three phase in traction system with a neat block diagram?

