Roll No. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E / B. Tech (Full Time) END SEMESTER EXAMINATIONS – APR/MAY 2024

MINING ENGINEERING BRANCH
III Semester
EE 5305 & Electrical Drives and Control

(Regulations – 2019)

Time: 3 Hours | Answer ALL Questions | Max. Marks 100

PART- A (10 x 2 = 20 Marks)

Q.No	Questions	Marks
1.	Define electric drive.	2
2.	Mention the advantages of energy efficient motor.	2
3.	State the applications of DC Series motor.	2
4.	Why DC shunt motor will run at constant speed?	2
5.	Compare constant torque and constant power operations.	2
6.	Define slip.	2
7.	What is the need for load diagram?	2
8.	Mention different cooling methods for motors. .	2
9.	What is the need for starters?	2
10.	Mention various methods of starting for three phase induction motors.	2

PART- B (5 x 13 = 65 Marks)

Q.No	Questions	Marks
11.	a) Explain heating and cooling curve.	13
	OR	
	b) Explain the various classes of duty.	13
12.	a) Explain the working principle of circuit breaker.	13
	OR	
	b) Explain the four quadrant operation of Drive.	13
13.	a) Explain the working principle of single phase full converter fed DC Shunt motor.	13
	OR	
	b) Explain the various braking schemes for DC motors.	13
14.	a) Explain the rotor resistance control of induction motor with necessary equations and diagrams.	13
	OR	
	b) Explain V/f control of three phase induction motor.	13
15.	a) Explain the various starting methods for an induction motor.	13
	OR	
	b) Explain the starting mechanism for DC motors.	13