R18 Regulation *Subject code:2E8BF*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VIII Semester Supplementary Examinations, November 2025

ELECTRICAL DRIVES

(EEE)

Maximum Marks: 70 Date: 27.11.2025 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20 Marks)		Marks	CO	BTL
1	Draw speed- torque characteristics of a separately excited DC motor.	2M	1	L1
2	What is meant by electrical drives?.	2M	1	L1
3	What is plugging?	2M	2	L1
4	Write the voltage equation for step up chopper	2M	2	L1
5	A DC chopper is operating with duty cycle, α=0.4.The value of ripple factor of output voltage	2M	3	L1
6	If type A chopper is connected to a DC source of Es and is operating with duty cycle of α and supplying continuous current, output voltage is?	2M	3	L1
7	What are the different methods of braking applied to the induction motor?	2M	4	L1
8	What is meant by stator current control?	2M	4	L1
9	What is meant by margin angle of commutation?	2M	5	L1
10	What is the difference between an induction motor and synchronous motor?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Explain in detail the operation of a 1-phase Semi converter feeding a d.c series motor with reference to voltage and current waveforms, assume motor current is continuous and draw speed-torque characteristics	10M	1	L2
	OR			
12	Explain in detail the operation 1-phase full converter continuous current operation for separately excited DC motor and Sketch Toque and speed characteristics.	10M	1	L2
13	Explain about block diagram of electrical drive. Explain the four quadrant operation of chopper fed separately excited D.C motor.	10M	2	L2
	OR			
14	With a neat sketch draw the block diagram for closed loop operation of DC motor Drive.	10M	2	L2
15	Explain why the variable frequency is of induction motor is motor efficient than stator voltage control	10M	3	L2
	OR			

16	Explain them static rotor resistance control of induction motor with a circuit diagram.	10M	3	L2
17	Explain the operation of three phase slip ring induction motor when Scheribus drive is employed	10M	4	L2
	OR			
18	Explain them static rotor resistance control of induction motor with a circuit diagram.	10M	4	L2
19	With a neat block diagram explain the closed loop operation of synchronous motor drives.	10M	5	L2
	OR			
20	Discuss various methods of speed control of Synchronous motor in detail	10M	5	L2