000233

PRN:		Course Code :	UEV401

Second Year **B. Tech** End Semester Examination Summer 2024

EV Propulsion System

Day and Date: Fri 22 NOV 2024 Max Marks: **100**

Time : 02:00PM To 05:00PM Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	Explain types of DC motors	08	L2	CO4
	b)	Derive back emf equation of DC motor & explain its significance	08	L2	CO4
		OR			
	b)	Explain three point starter	08	L1	CO2
Q.2		**Attempt the following**			
	a)	Explain the effect of change in rotor resistance on torque in three phase induction motor	08	L3	CO3
	b)	What are the various losses in an induction motor? On what factors do they depend?	08	L2	CO4
		OR			
	b)	Describe with neat sketch the construction of a 3 phase I.M	08	L1	CO2
Q.3		**Attempt any two from the following**			
	a)	Explain hunting of a synchronous motor. State the causes and effects of hunting. How hunting effect is reduced.	08	L3	CO4
	b)	Explain phasor diagrams of synchronous motors at different power factors.	08	L2	CO3
	c)	Explain methods for starting of synchronous	08	L1	CO3
Q.4		**Attempt any two from the following**			
	a)	Explain construction and working Permanent Magnet Stepper Motor	08	L2	CO2
	b)	Explain construction and working Variable Reluctance Stepper Motor	08	L3	CO1
	c)	Explain construction and working of stepper motor	08	L2	CO2
Q.5		**Attempt any Two of the following**			
	a)	Discuss sensor less BLDC motor. State advantages and disadvantages of BLDC motors	09	L4	CO4
	b)	Describe Hall sensor used in BLDC motor. State applications of BLDC motors	09	L4	CO4
	c)	Explain construction and working of BLDC motor	09	L3	CO2
Q.6		**Attempt any Two of the following**			
	a)	State advantages, disadvantages & applications of permanent magnet stepper motor	09	L3	CO4
	b)	Describe starting of permanent magnet stepper motor	09	L3	CO2
	c)	Explain construction and working of permanent magnet stepper motor	09	L2	CO2

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