

Internal Assessment Test – II

Sub:	Special Electrical Machines	Code:	15EE554
Date:	16/10/2018	Duration:	90 mins
		Max Marks:	50
		Sem:	5
		Branch:	EEE
Answer Any FIVE FULL Questions			

		Marks	OBE	
			CO	RBT
1a	Derive the transfer function of armature controlled DC servomotor. Draw the block diagram	[6]	CO4	L2
1b	Explain the Torque-Speed characteristics of AC servomotor.	[4]	CO4	L2
2a	A BLDC motor has a no load speed of 6000 rpm when connected to 120 V DC source. Armature resistance is 2.5 Ω. Find the speed when it is supplied with 60V and developing a torque of 0.5 Nm. Neglect constant losses. The no load current is 1A.	[5]	CO2	L3
2b	Draw and explain the structure of PMDC motor.	[5]	CO1	L2
3	With a neat sketch, explain the microprocessor-based control of BLDC motor	[10]	CO3	L2

P.T.O

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4	With a neat diagram, explain the working of AC series motor with its torque equation	[10]	CO1,C O2	L2
5a	With necessary waveforms, explain the operation of hysteresis motor	[7]	CO1	L2
5b	Give some applications where Universal motor can be used	[3]	CO5	L2
6	Explain the various speed control schemes for universal motor	[10]	CO3	L2
7	Explain the working of repulsion motor with a neat sketch .	[10]	CO1	L2
8a	Compare conventional DC motor and BLDC motor	[5]	CO1	L2
8b	Compare electronic and mechanical Commutator	[5]	CO1	L2

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