CONTINUOUS INTERNAL EVALUATION - 2

Dept:FY	Sem / Div: 1st CS & EC	Sub:Introduction to Electrical Engineering	S Code: BESCK104B
Date:10/01/24	Time: 10:00-11:30	Max Marks: 50	Elective: Y

Note: Answer any 2 full questions, choosing one full question from each part.

QN		Questions	Marks	RBT	CO's
		PART A			
1	a	With neat diagram, explain the construction of a core type and shell type single phase transformer.	8	L2	CO3
	b	Explain the concept of rotating magnetic field in a 3 phase induction motor with neat vector diagrams.	9	L2	CO3
	c	Explain the precautions to be taken to prevent electric shock.	8	L2	CO4
		OR			
2	a	With a neat sketch, explain the construction of a DC generator, and state the function of each part.	9	L2	CO3
	b	Sketch the torque Ta/Ia characteristics and speed N/Ia characteristics of DC shunt motor and DC series motor and mention two applications of each motor.	8	L2	CO3
	c	The maximum efficiency at full load and unity power factor of a single phase 25KVA,500V/1000V,50Hz, transformer is 98%. Determine its efficiency at i)75% load,0.9 p.f. ii)50% load,0.8 p.f.	8	L3	CO3
		PART B			

3	a	A shunt generator running at 500 rpm delivers 50KW at 200V. The armature and field resistances are 0.02Ω and 40Ω respectively. Calculate generated E.M.F if brush drop of 1V per brush.	8	L3	CO3
	b	What is Earthing? With a neat diagram, explain plate earthing.	9	L2	CO4
	c	Explain different losses that occur in a transformer.	8	L2	CO3
		OR			
4	a	With usual notations, derive the torque equation of a DC motor.	9	L3	CO3
	b	With a neat sketch, explain the constructional features of three phase induction motor.	8	L2	CO3
	c	A 3-phase,50Hz,4pole induction motor, its rotor induced e.m.f is 1.5Hz frequency. Calculate i) Synchronous speed ii) Full load slip iii) Actual speed.	8	L3	CO3

Prepared by: Prabha G S

HOD