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**312315 - Elements of Electrical Engg.
(Sem II)**

As per MSBTE's K Scheme

EJ / ET / AO / DE / EX / IC / IE / IS / MU / TE

Unit III		Transformers and DC motors		Marks - 14	
S. N.	MSBTE Board Asked Questions	Exam Year	Marks		
1.	Define the transformation ratio of a transformer.	W-2018	2M		
2.	Draw neat constructional sketch of shell type transformer.	W-2018	2M		
3.	Draw neat constructional sketch of auto transformer. State its advantages and applications.	W-2018	4M		
4.	A 2000/200V, single phase, 50Hz transformer has the maximum flux of 30 mwb. Find out the no. of turns on primary and secondary windings if the cross sectional area of the core is 1.1 cm ² .	W-2018	4M		
5.	Compare two winding transformer and auto transformer. (Any four points).	W-2018	4M		
6.	Draw schematic representation of - (i) DC shunt motor (ii) DC series motor (iii) DC compound motor	W-2018	6M		
7.	State working principle of transformer.	S-2018	2M		
8.	Write two applications of D.C. series motor.	S-2018	2M		

9.	List the main parts of DC motor. Give the function of any two parts.	S-2018	4M
10.	Compare autotransformer with two winding transformer (any four points).	S-2018	4M
11.	Draw schematic diagram of long shunt DC compound motor. Give one application.	S-2018	4M
12.	20 kVA, 3300/240 V, 50 Hz single phase transformer has 80 turns on secondary winding. Calculate number of primary winding turns, full load primary and secondary currents and maximum value of flux in the core.	S-2018	6M
13.	State function of poles and brushes in DC motors. State material for each.	S-2019	2M
14.	Write principle of operation for a DC motor.	S-2019	2M
15.	Draw schematic of following motors. Give two applications of each. (i) DC shunt (ii) DC series	S-2019	4M
16.	Compare auto transformer and two winding transformer on any four points.	S-2019	4M
17.	For a transformer, give (i) Any two main parts (ii) Any two ratios (iii) Any two types and (iv) Any two losses	S-2019	4M
18.	Draw a practical set up to find voltage and current ratio on a 230/115 V, 1KVA, 1f 50Hz transformer. Also write reading of each meter.	S-2019	6M
19.	State the working principle of transformer.	W-2019	2M

20.	Write any four main parts of d.c. motor.	W-2019	2M
21.	Compare auto transformer with two winding transformer on following basis. (i) Symbol (ii) Copper saving (iii) Isolation (iv) Application	W-2019	4M
22.	Explain the working principle of d.c. motor with neat sketch.	W-2019	4M
23.	Write any two applications of each of the following. (i) DC Shunt motor (ii) DC series motor.	W-2019	4M
24.	A 1 ϕ . 1.5 KVA. 230/110 V transformer used in a laboratory. Calculate primary winding current. (i) Secondary winding current (ii) Turns ratio. (iii) Current ratio	W-2019	6M
25.	State an emf equation of 1 phase transformer and write meaning of each term in an equation.	S-2022	2M
26.	Write two applications of D.C. Shunt Motor.	S-2022	2M
27.	Compare between 1 phase Auto-transformer and two winding transformer.	S-2022	4M
28.	Draw and label constructional diagram of D.C. Motor.	S-2022	4M
29.	10 kVA, 2200/200 V, 50 Hz single phase transformer has 100 turns on secondary winding. Calculate : (i) Primary number of turns (ii) Full load primary current (iii) Full load secondary	S-2022	4M

	current (iv) Maximum value of flux in the core.		
30.	State and explain the different losses occurred in single phase transformer. Define efficiency of transformer.	S-2022	6M
31.	State the EMF equation of transformer.	W-2022	2M
32.	Write any four main parts of dc motor	W-2022	2M
33.	Compare Autotransformer and two winding transformer with respect to (i) Number of winding (ii) Symbol (iii) Copper saving (iv) Application	W-2022	4M
34.	10 kVA, 2200/200 V, 50 Hz single phase transformer has 80 turns on secondary winding. Calculate number of primary winding turns, full load primary and secondary currents and maximum value of flux in the core.	W-2022	4M
35.	Draw schematic diagram of dc series and shunt motor. Also give the application of both motors.	W-2022	4M
36.	A single phase 2 kVA, 200V/100V transformer used in a laboratory. Calculate : (i) Primary winding current (ii) Secondary winding current (iii) Turn ratio (iv) Voltage ratio (v) Current ratio (vi) Transformation ratio.	W-2022	6M
37.	State the difference between step up and step down Transformer.	SAMPLE PAPER	2M
38.	Write EMF equation of transformer. State the meaning of each notation in it.	SAMPLE PAPER	2M
39.	Draw schematic diagram for each of the following motor. (i) DC Shunt Motor (ii) DC Series Motor (iii) Short Shunt DC Compound Motor and (iv) Long Shunt DC Compound Motor.	SAMPLE PAPER	4M
40.	Write any two applications of each of the following. i) DC Shunt Motor ii) DC Series Motor .	SAMPLE PAPER	4M

41.	A 1-Phase, 1 kVA, 230/115 V transformer used in a laboratory. Calculate: (i) Primary winding current (ii) Secondary winding current (iii) Turns Ratio and (iv) Current Ratio.	SAMPLE PAPER	6M
42.	State the EMF equation of transformer.	W-2023	2M
43.	Write any four main parts of dc motor	W-2023	2M
44.	Compare Autotransformer and two winding transformer with respect to (i) Number of winding (ii) Symbol (iii) Copper saving (iv) Application	W-2023	4M
45.	Draw and label constructional diagram of D.C. Motor.	W-2023	4M
46.	10 kVA, 2200/200 V, 50 Hz single phase transformer has 80 turns on secondary winding. Calculate number of primary winding turns, full load primary and secondary currents and maximum value of flux in the core.	W-2023	4M
47.	State and explain the different losses occurred in single phase transformer. Define efficiency of transformer.	W-2023	6M

Thank You

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