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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**

<b>Unit I</b>		<b>Magnetic circuits</b>		<b>Marks - 12</b>	
<b>S. N.</b>	<b>MSBTE Board Asked Questions</b>	<b>Exam Year</b>	<b>Marks</b>		
1.	Define Reluctance. What is its units?	W-2018	2		
2.	Explain self induced emf and mutually induced emf with neat sketch.	W-2018	4		
3.	Compare magnetic circuit and electric circuit on any four points.	W-2018	4		
4.	Explain B-H curve and draw with all parameters	W-2018	4		
5.	Define Faraday's first law of electromagnetic induction.	S-2018	2		
6.	Explain with neat diagram series and parallel magnetic circuits.	S-2018	4		
7.	Explain dynamic and static induced emf. with neat diagram.	S-2018	4		
8.	State Fleming's right hand rule	S-2019	2		
9.	Compare electric and magnetic circuit on any four points	S-2019	4		
10.	Define- (i) Flux density (ii) Field strength (iii) Permeability (iv) Reluctance	S-2019	4		

11.	A coil of 500 turns wound uniformly on an iron ring of mean circumference 50 cm and cross sectional area of $4/\pi$ cm <sup>2</sup> , carries a current of 1 A. find (i) MMF (ii) Field strength (iii) Reluctance (iv) Flux Take $\mu_r = 1000$	S-2019	4
12.	State Faraday's law of Electromagnetic Induction	W-2019	2
13.	Draw and explain B-H curve of magnetic material.	W-2019	4
14.	Explain with neat diagram Lenz's law. State its any two applications.	W-2019	4
15.	Explain how Fleming's right hand rule helps to deciding direction of induced EMF.	W-2019	4
16.	Draw series and parallel magnetic circuit.	S-2022	2
17.	Draw and explain Hysteresis Loop		4
18.	Define each of the following terms : (i) Magnetic flux (ii) Magnetic flux Density (iii) Reluctance (iv) Permeability	S-2022	4
19.	An iron ring of mean circumference of 90 cm is uniformly wound with 600 number of turns of wire. Calculate the value of flux density that a current of 1.5 A would produce in the ring. Assume relative permeability of 1400.	S-2022	4
20.	Define term : (i) Permeability (ii) Reluctance	W-2022	2
21.	Explain Faraday's law of electromagnetic induction.	W-2022	4
22.	Explain static and dynamic induced emf with neat diagram	W-2022	4
23.	Draw and explain B-H curve for magnetic material.	W-2022	4
24.	Define Magnetic circuit.	SampleQP	2

25.	Compare Electric Circuit and Magnetic Circuit on any four points.	SampleQP	4
26.	Explain with neat diagram Static and Dynamic Induced EMF.	SampleQP	4
27.	A non-magnetic ring has a mean diameter of 44.5 cm and a cross-sectional area of 12 cm <sup>2</sup> . It is uniformly wound with 500 turns. Calculate the field strength and total flux produced in the ring by a current of 1Amp.	SampleQP	4
28.	Explain Faraday's law of electromagnetic induction.	W-2023	2
29.	Compare Electric Circuit and Magnetic Circuit on any four points.	W-2023	4
30.	Define each of the following terms : (i) Magnetic flux (ii) Magnetic flux Density (iii) Reluctance (iv) Permeability.	W-2023	4
31.	Draw and explain B-H curve for magnetic material.	W-2023	4

**Thank You**

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