Paper / Subject Code: 51023 / Fundamantals of Electrical Machines & Measurements

1T00833 - S.E.(Electrical Engineering)(SEM-III)(Choice Base Credit Grading System) (R- 19) (C Scheme) / 51023 - Fundamantals of Electrical Machines & Measurements

QP CODE: 10037819 DATE: 28/11/2023

Time: (3 Hours)

Total Marks: 80

N.B: (1) Question No. 1 is compulsory.

- (2) Attempt any three from the remaining questions.
- (3) Figures to the right indicate full marks.
- (4) Each question is of 20 Marks

Q.1	Attempt any 4 questions	Marks
A	What are the similarities between electric and magnetic circuit? Explain the difference between electric and magnetic circuit.	5
В	Give classification of transducers.	5
C	What is the necessity of starters in DC machine?	5
D	Write difference between indicating and integrating instruments	5
E	Explain i) Magnetic flux ii) Leakage Flux iii) Magnetic saturation.	5
Q.2		Marks
A	Explain the construction and working principle of digital Tachometer.	10
В	Derive torque equation of Doubly excited system.	10
Q.3		Marks
A C	What is back EMF in Dc motor and how it helps DC motor?	10
B	Explain the working principle, construction of moving coil instruments and	10
THE STATE OF THE PARTY OF THE P	hence derive the torque equation.	
Q.4		Marks
A	What is the armature reaction in DC machine explain with neat diagram and give the remedies to overcome the armature reaction.	10
В	Explain in detail working principle of digital voltmeter and also the advantages	10
<i>></i>	of digital meters over analog meter.	
Q.5		Marks
\mathbf{A}^{\vee}	Explain Basic potentiometer circuit and how it is used for the calibration of	10
	ammeter.	
В	Illustrate the working of ramp type digital voltmeter (DVM) with the help of	10
	block diagram and waveforms.	
A		3.6
Q.6		Marks
S'	Evaloin Bristonosis and addy symmet lesses. Duest bristonosis less. II	10
A	Explain hysteresis and eddy current losses. Draw hysteresis loop ,How can	10
D.	these losses be reduced? What are transducers explain LVDT and Thermoscopples with diagram	10
В	What are transducers explain LVDT and Thermocouples with diagram.	10
