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SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107



AN AUTONOMOUS INSTITUTION

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai

INTERNAL ASSESSMENT EXAMINATION – I

III Semester

B.E-Electronics and Communication Engineering
19EE308 – Electrical Engineering & Instrumentation
Regulations 2019

Duration : 1 Hour 30 Minutes

Date : 22.09.2022 Session: AN

Maximum: 50 Marks

Answer ALL questions

PART A - (5 X 2 = 10 marks)

Q.No	Question	M	CO	BL
1.	In the DC generator characteristics, the emf curve does not start from the origin. Justify.	2	CO-1	L-2
2.	What is the back emf in a DC Motor?	2	CO-1	L-2
3.	DC Series motor should not be started without load. Why?	2	CO-1	L-3
4.	Write the emf equation of a transformer.	2	CO-2	L-4
5.	Classify the transformer according to the construction	2	CO-2	L-2

PART B - (2 X 13 = 26 marks)

6.	(a) Elaborate on the construction and working principle of DC generator.	13	CO-1	L-2
	OR			
	(b) Discuss the speed control methods of DC motors.	13	CO-1	L-2
7.	(a) Explain the construction and working principle of single phase transformer with necessary sketches.	13	CO-2	L-2
	OR			
	(b) Enumerate the OC test and SC test of the single-phase transformer	13	CO-2	L-2

PART C –(1 x 14 = 14 Marks)

8.	(a) Derive the emf equation of the DC generator. With the derived equation solve for the voltage generated in a DC machine with four-pole having wave-wound armature winding has 61 slots, each slot containing 30 conductors when driven at 1500 rpm assuming the flux per pole to be 8.0 mWb.	14	CO-1	L-3
	OR			
	(b) Transformers are generally used in electrical and electronic machines. Could you compare it with an application of FM radio, Television and chargers? Write your inference through the analysis.	14	CO-2	L-4