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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Seventh Semester, B.E. - Electrical and Electronics Engineering

Semester End Examination; February - 2022

Testing and Commissioning of Electrical Equipment

Time: 3 hrs *Max. Marks: 100*

Course Outcomes

The Students will be able to:

CO1: Understand the concepts of installation of Transformers i.e. Location, site selection, rating of machine, enquiry and storing of dispatched machine. And analyze different test which are conduct before commissioning of a transformer.

CO2: Understand the concepts of installation of synchronous machine i.e. foundation details, cooling arrangements, excitation. And analyze different test which are conduct before commissioning of a synchronous machine.

CO3: Understand the concepts of installation of Induction motor i.e. foundation details, alignment, coupling

CO4: Analyze different test which are conducted on circuit breaker and its maintenance.

CO5: Analyze the different safety measures.

***Note**: I) PART - A is compulsory. **Two** marks for each question.*

*II) PART - B: Answer any **Two** sub questions (from a, b, c) for Maximum of **18 marks** from each unit.*

Q. No.	Questions	Marks	BLs	COs	POs
	I : PART - A	**10**			
I a.	What is the function of Bucholz relay?	2	L1	CO1	PO3
b.	Mention the specification of synchronous generator.	2	L1	CO2	PO3
c.	Define routine test and factory test.	2	L1	CO3	PO3
d.	Mention the specification of circuit breaker.	2	L1	CO4	PO3
e.	What is electric shock?	2	L1	CO5	PO3
	II : PART - B	**90**			
	UNIT - I	**18**			
1 a.	List out the points to be considered in the selection of site and location of power transformer.	9	L1	CO1	PO1
b.	List the important steps in the maintenance of power transformer.	9	L1	CO1	PO1
c.	State the steps, prior to the commissioning of a power transformer.	9	L1	CO1	PO1
	UNIT - II	**18**			
2 a.	Explain the function and principle of brushless excitation system.	9	L2	CO2	PO2
b.	State and explain the procedure of various tests on the synchronous machine and their significance.	9	L2	CO2	PO2
c.	List out various steps in installation of a synchronous machine.	9	L2	CO2	PO2
	UNIT - III	**18**			
3 a.	List out the various aspects to be considered in the procurement of induction motor	9	L1	CO3	PO3
b.	Explain the methods of drying out of induction motor	9	L1	CO3	PO3
c.	Explain the requirements of civil and foundation work for medium and large induction motor.	9	L2	CO3	PO3

Contd... 2

	UNIT - IV	**18**			
4 a.	Explain and analyse the various steps in maintenance of circuit breakers.	9	L1	CO4	PO3
b.	What is the different test conducted on circuit breakers? Explain in detail.	9	L2	CO4	PO3
c.	Explain the routine test and type test conducted on CT'S and PT'S.	9	L3	CO4	PO3
	UNIT - V	**18**			
5 a.	List and explain seven principles of safety management.	9	L1	CO5	PO3
b.	List out safety precautions against electric shock in small buildings, and LV installations.	9	L2	CO5	PO3
c.	Explain the following: i) Creep ages ii) Touch potential iii) Safety clearances	9	L2	CO5	PO3

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