

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE			
Regular/Supplementary Summer – 2023			
Course: B. Tech.		Branch:	Semester:
Subject Code & Name : BTEEC602 - Electrical Machine Design			
Max Marks: 60		Date:	Duration: 3 Hr.
Instructions to the Students:			
<ol style="list-style-type: none"> 1. All the questions are compulsory. 2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question. 3. Use of non-programmable scientific calculators is allowed. 4. Assume suitable data wherever necessary and mention it clearly. 			
		(Level/CO)	Marks
Q. 1	Solve Any Two of the following.		12
A)	What are the considerations to be made while designing a electrical machines?	CO1	6
B)	Explain different types of Electrical Engineering Materials	CO1	6
C)	Explain important properties of Insulating materials.	CO1	6
Q.2	Solve Any Two of the following.		12
A)	Describe the functions of motor starter.	CO2	6
B)	Classify the insulating material on the basis of their permissible temperature rise.	CO2	6
C)	Explain standard Rating of Electrical Machines.	CO2	6
Q. 3	Solve Any Two of the following.		12
A)	Describe Design of Squirrel cage Rotor.	CO4	6
B)	Explain the factors on which selection of rotor slots depends.	CO4	6
C)	Derive output equations of Induction motors.	CO3	6
Q.4	Solve Any Two of the following.		12
A)	What are the different types of leakage fluxes in an induction motor also mentioned the derivation based on.	CO3	6
B)	What are the cooling methods of transformer describe in detail.	CO5	6
C)	Drive the relationship between mechanical overload ratio and heating overload ratio.	CO5	6
Q. 5	Solve Any Two of the following.		12
A)	Compare between Distribution Transformer and Power Transformer	CO6	6
B)	Derive Output Equation of Transformer	CO6	6
C)	Calculate approximate overall dimensions for a 200 KVA, 6600/440 volt, 50 Hz, 3ph core type transformer. The following data may be assume, emf per turn=10V, Max. flux density=1.3 wb/m ² , Current density=0.5 amp/mm ² , window space factor=0.3, Overall height=overall width, stacking factor 0.9. use a 3 stepped core. For a 3 stepped core width of largest stamping=0.9D and net iron are =0.6d ² where D is the diameter of circum scrabing circle.	CO6	6
*** End ***			

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