Sanjay Ghodawat University, Kolhapur

2020-21

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

EXM/P/09/00

Year and Program:	**School of Technology**	**Department: Electrical Engg.**
Course Code: ELE 306	**Course Title: Electrical Machine Design**	**Semester : VI**
Day :Wednesday **Date :09.06.2021**	**End Semester Examination**	**Time : 2 Hrs.** **Max Marks : 50**

Instructions: 1) All Questions are compulsory.
2) Figures on right side indicate Marks.

		Marks	Bloom's Level	CO
Q.1	**Answer the following (any Two)**–			
a)	Describe about the factors influencing the choice of (a) specific electric loading and (b) specific magnetic loading for DC machine.	8	L1	1
b)	Derive an expression for temperature (heating) rise and fall (cooling) curve.	8	L1	2
c)	Explicate the different duties of Electrical machines & discuss of continuous duty & short time duty?	8	L2	2
Q.2	**Answer the following (any two) –**			
a)	Develop the voltage per turn equation for a single phase transformer.	8	L3	3
b)	Describe about the factors influencing the choice of (a) specific electric loading and (b) specific magnetic loading for three-phase induction motor.	8	L3	3
c)	Obtain the Rotor bar current equation of Squirrel cage induction motor.	8	L2	4
Q.3	**Answer the following (any two) –**			
a)	Obtain the expression for ratio of gross core area to circumscribing circle's area for (a) square core and (b) stepped core.	9	L3	4
b)	Derive the output equation of 3ϕ core type of transformer.	9	L4	5
c)	Develop the output equation of three phase synchronous machine in terms of main dimensions.	9	L5	5

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