

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

M.E DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Third Semester

Power system Engineering

PS4009- Industrial Power System Analysis and Design

Regulations - 2021

Duration : 3 Hrs

Maximum: 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	Draw the torque speed characteristics of squirrel cage induction motors based on design?	AP	1	2
2.	Recall how computer aided analysis help in motor starting studies.	RE	1	2
3.	List the assumptions made in power factor case study analysis.	RE	2	2
4.	What is back-to-back switching?	RE	2	2
5.	State the factors contributing the effect of harmonics of system?	UN	3	2
6.	Draw the single tuned filter with frequency response characteristics.	AP	3	2
7.	Summarize the various sources of flicker.	UN	4	2
8.	Name the ways to minimize the flicker effects.	RE	4	2
9.	Identify the circumstances leading to the shock accidents.	AP	5	2
10.	List the average resistivity of various soils.	RE	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

Q.No	Questions	BLT	CO	Marks
11.	a Explain the approaches to calculate voltage drop, explain each in detail?	UN	1	13
	Or			
	b Elaborate the starting methods used for large motor and discuss about each in detail?	UN	1	13
12.	a Explain in detail about frequency scan analysis?	AP	2	13
	Or			
	b Explain how switching surge analysis is done?	AP	2	13
13.	a Discuss the various acceptance criteria with the limitation of harmonics?	UN	3	13
	Or			
	b Give the various harmonic evaluation terminologies and discuss them in Detail.	UN	3	13

14.	a	Explain about flicker analysis?	AP	4	13
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Or

b	What are the various data needed to perform flicker analysis and also discuss about data for planning studies to measure the performance characteristics of the load.	AP	4	13
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15.	a	State the procedure for ground grid calculation in detail.	AP	5	13
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Or

b	State the methodology for performing ground grid calculation using computer aided analysis.	AP	5	13
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*PART - C (Marks 1*15 = 15)*

<i>Q.No</i>		<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	State the Importance of power factor and recall the methods in practice for power factor correction? Discuss the power factor correction capacitor project with the help of case study?	CR	2	15
		Or			
	b	Represent various flicker terminologies and their usage in stating the flicker criteria. Discuss flicker analysis using case study of a standard system.	CR	4	15