

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

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

Third Semester

Electronics and Communication Engineering

EC3351 – Control Systems

Regulations - 2021

Duration : 3 Hrs

Maximum: 100 Marks

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

Q.No	Questions	BLT	CO	Marks
1.	What are the basic elements used for modeling mechanical translational system?	RE	1	2
2.	Compare positional servomechanism and rate servomechanism.	UN	1	2
3.	Define damping ratio.	RE	2	2
4.	How the transient responses of a system with feedback differ to that with feedback?	RE	2	2
5.	What are the needs for lead compensation and lag compensation?	RE	3	2
6.	Why compensation is necessary for feedback control systems?	RE	3	2
7.	State Nyquist stability criterion.	RE	4	2
8.	Summarize the necessary and sufficient condition for the stability in routh stability criterion.	UN	4	2
9.	List the methods used to test the stability of discrete time system.	RE	5	2
10.	Summarize the need for state variables.	UN	5	2

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

Q. No	Questions	BLT	CO	Marks
11.	a i Compare open loop and closed loop control systems based on different aspects.	UN	1	6
	ii What are the basic elements of mechanical rotational systems? Write its force balance equation.	UN	1	7
	Or			
b	Using block diagram reduction techniques find the transfer function of the system.	UN	1	13



