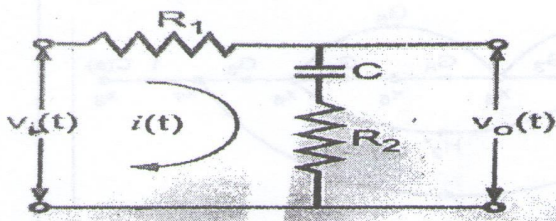


K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Nov – Dec 2023
 B.Tech Program: Electronics and Telecommunication Scheme II/**IEB**
 Examination: SY Semester: III
 Course Code: EXC304 and Course Name: Electronics Instrumentation And Control System
 Date of Exam: 09/12/2023 Duration: 2.5 Hours Max. Marks: 60

Instructions:				
(1) All questions are compulsory.				
(2) Draw neat diagrams wherever applicable.				
(3) Assume suitable data, if necessary.				
		Max. Marks	CO	BT level
Q 1	Solve any six questions out of eight.	12		
i)	Define Precision with example.	2	1	U
ii)	Draw mega ohm bridge diagram.	2	1	U
iii)	Define poles and zeros with example.	2	5	R
iv)	Compare active and passive transducer.	2	2	U
v)	Define open loop with example.	2	3	R
vi)	Define phase margin.	2	6	U
vii)	Define Nyquist plot.	2	6	R
viii)	Define PTC.	2	4	U
Q.2	Solve any four questions out of six.	16		
i)	Find the transfer function of given network. 	4	3	U
ii)	Find the stability of given equation. $S^5+2S^4+3S^3+6S^2+10S+15$	4	5	U
iii)	Write selection criteria of transducer.	4	2	U
iv)	Compare open loop and closed loop system.	4	4	U

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v)	Write short note on calibration.	4	1	U
vi)	Explain potentiometer transducer.	4	6	R
Q.3	Solve any two questions out of three.	16		
i)	Derive an expression for kelvin's double bridge with proper diagram.	8	1	U
ii)	Find $C(s) / R(s)$ for given system.	8	4	AP
iii)	Sketch the root locus of unity feedback system with $G(s) = K / S(S+5)(S+10)$.	8	5	AP
Q.4	Solve any two questions out of three.	16		
i)	Explain thermocouple with its all types and its temperature ranges.	8	2	U
ii)	Find $C(s) / R(s)$ using Mason's gain formula	8	3	AP
iii)	Sketch the root locus of unity feedback system with $G(s) = K / S(S+1)(S+3)$.	8	6	AP
