

University of Mumbai
Examination 2020 under cluster 5 (APSIT)

Program: SE Electronics and Telecommunication Engineering

Curriculum Scheme: Revised 2012

Examination: Second Year Semester IV

Course Code: **ETC405** and Course Name: Control systems

Time: 1 hour

Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	In which compensator technique R & C components are in Series
Option A:	In LAG
Option B:	In LEAD
Option C:	In both LEAD & LAG
Option D:	Cannot say
Q2.	In S.F.G. Nodes represent
Option A:	Summing point
Option B:	Takeoff point
Option C:	Block
Option D:	Both summing & Takeoff point
Q3.	For bounded I/P system response is having constant amplitude & freq.
Option A:	System is unstable
Option B:	System is stable
Option C:	System is marginally stable
Option D:	System is conditionally stable
Q4.	Gain between two Nodes known as
Option A:	Self loop
Option B:	Loop
Option C:	Transmittance
Option D:	None of above
Q5.	Higher order system difficult to solve by Routh array
Option A:	False
Option B:	True
Option C:	Sometime true
Option D:	Un predictable
Q6.	Traffic control system signal is an example of
Option A:	Close loop control system

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Option B:	Open loop control system
Option C:	Feedback control system
Option D:	Cannot predict
Q7.	If the first column in Routh array is having no sign change than
Option A:	System is stable
Option B:	System is limitedly stable
Option C:	System is unstable
Option D:	System is critically stable
Q8.	In mechanical system Translational motion is
Option A:	Motion of body in straight line
Option B:	Motion of body in circular form
Option C:	Motion along it's on axis
Option D:	Can't predict
Q9.	in B.D.R. IF blocks are in Series, according to rule which operation to be performed
Option A:	Block addition
Option B:	Block subtraction
Option C:	Block multiplication
Option D:	Block division
Q10.	Breakaway point always lie on root locus
Option A:	False
Option B:	True
Option C:	Some time lie on RL
Option D:	May be on imaginary axis
Q11.	centroid is part of RL
Option A:	a) False
Option B:	b) True
Option C:	c) May be or May not be
Option D:	d) Cannot say
Q12.	T. F. of close loop system is given as
Option A:	$C(s)$
Option B:	$R(s)$
Option C:	$C(s) / R(s)$
Option D:	$C(s).R(s)$
Q13.	Steady state response of the system when subjected to which I/p to get frequency response.

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Option A:	Ramp
Option B:	Step
Option C:	Sinusoidal
Option D:	Square
Q14.	Frequency response is applied to
Option A:	Non linear
Option B:	Linear
Option C:	Both linear & Non linear
Option D:	Cannot say
Q15.	Steady state response is
Option A:	Before transient response
Option B:	Can be before or can be after transient response
Option C:	At the end of transient response
Option D:	In synchronous with transient response
Q16.	Freq. at which gain is unity known as
Option A:	Phase cross over freq.
Option B:	Resonant freq.
Option C:	Gain cross over freq.
Option D:	Unity gain
Q17.	On semi log paper for Bodeplot which parameters are on Y axis
Option A:	Magnitude
Option B:	Freq.
Option C:	phase
Option D:	phase & Magnitude
Q18.	in Bode plot plus 20dB slop is consider for
Option A:	zero
Option B:	pole
Option C:	pole at origin
Option D:	two zero at origin
Q19.	Resultant line of Magnitude plot in Bodeplot start from
Option A:	plus 20dB
Option B:	20LogK value
Option C:	LogK value
Option D:	20plus 20 Log K value
Q20.	Steady state Error means
Option A:	Static Error
Option B:	Limiting Error
Option C:	Difference between actual &desired output

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Option D:	Dynamic error
Q21.	If Zeta equals to one than system Response is
Option A:	Over damped
Option B:	Critically damped
Option C:	Under damped
Option D:	Max. damped
Q22.	Which freqs. are connecting in Bodeplot
Option A:	Resonating
Option B:	High freq.
Option C:	Corner freq.
Option D:	Natural freq. Ans c
Q23.	Which mechanism in control engineering implies an ability to measure the state by taking measurements at output?
Option A:	Controllability
Option B:	Observability
Option C:	Differentiability
Option D:	Adaptability
Q24.	State model representation is possible using _____
Option A:	Physical variables
Option B:	Phase variables
Option C:	Canonical state variables
Option D:	All of the mentioned
Q25.	Which among the following constitute the state model of a system in addition to state equations?
Option A:	Input equations
Option B:	Output equations
Option C:	State trajectory
Option D:	State vector