



**DEPARTMENT OF E&C ENGINEERING**  
**INSTITUTE OF TECHNOLOGY**  
**UNIVERSITY OF KASHMIR**  
 NAAC Accredited Grade – “A+”

**Answer Key of 5th Semester**

Question Number	DSP	EM	DCIT	MP
Q1	option 1	option 4	option 1	option 3
Q2	option 4	option 3	option 4	option 3
Q3	option 2	option 2	option 2	option 3
Q4	option 1	option 4	option 3	option 3
Q5	option 2	option 4	option 2	option 2
Q6	option 1	option 2	option 1	option 1
Q7	option 1	option 2	option 1	option 3
Q8	option 2	option 3	option 1	option 1,option 4
Q9	option 3	option 3	option 3	option 3
Q10	option 4	option 3	option 4	option 3
Q11	option 2	option 2	option 1	option 4
Q12	option 3	option 1	option 2	option 3
Q13	option 1	option 2	option 1	option 1
Q14	option 1	option 4	option 4	option 4
Q15	option 1	option 3	option 2	option 3
Q16	option 2	option 4	option 2	option 4
Q17	..	option 3	..	option 4
Q18	...	option 2	..	option 1
Q19	....	option 4	..	option 1
Q20	...	option 3	..	option 1
Q21	...	option 3	..	option 2
Q22	...	option 3	..	option 3
Q23	...	option 3	..	option 1
Q24	...		..	option 3
Q25	...		..	
	Sd/-	Sd/-	Sd/-	Sd/-
	<b>Er Samia</b>	<b>Er Irshad Beigh</b>	<b>Er Samia</b>	<b>Er Rouf UI Alam</b>

Note: Control Systems subject paper was on Shuffle Mode. Next page onwards find its key.

Sd/-

**Examination Incharge**

Sd/-

**Coordinator**

# Control Systems [ECE 5th sem, Regular/Backlog]

Batch 2016/2017/2018

Course Code: ECE 5517B

Date: 23/06/2021

Start of time: 9:30 a.m.

End of time: 10:10 a.m.

Link will be closed exactly at 10:10 a.m. failing which submission will not be possible.

Email \*

afshan\_58phd15@nitsri.net

Name \*

AFSHAN KHAN

Class Roll Number \*

23

University Enrollment Number \*

11

Batch \*

23232

Select Campus \*

IOT Zakura

Choose the most appropriate answer for the question given below

Comment about the stability of a system, whose characteristic equation is given by: \* 2 points

$$S^4 + 2S^3 + S + 2 = 0$$

- Marginally stable system
- Stable
- Highly stable system
- Unstable system

Choose the most appropriate answer for the question given below

For a control system the concept of Initial conditions exists when there may be \*

1 point

- Only Resistive elements in the circuit
- Resistive and Captive elements in the circuit
- Non-Inductive elements in the circuit
- All of the above

Choose the most appropriate answer for the question given below

If a pair of conjugate poles of a transfer function are located on the imaginary axis then the value of \*

1 point

- Damping coefficient =0
- Damping coefficient =1
- Damping coefficient =10
- Damping coefficient =0.5

Choose the most appropriate answer for the question given below

When a disturbance occurs in a control system then the system enters into \*

1 point

- Steady state condition
- Transient condition
- Damping condition
- None of above

Choose the most appropriate answer for the question given below

Addition of LHS poles to a transfer functions shifts the root locus plot towards \*

2 points

- Top of the S-Plane
- Left of the S-Plane
- Bottom of the S-Plane
- Right of the S-Plane

Choose the most appropriate answer for the question given below

Which of the following statements is correct: \*

2 points

- A Feedback link always stabilizes a system
- A Feedback link always makes a system unstable
- A positive feedback makes a system stable where as a negative feedback makes it unstable
- A positive feedback makes a system unstable where as a negative feedback makes it stable

Choose the most appropriate answer for the question given below

For Routh Hurwitz Stability Criterion, if all the elements of two odd rows are 0, then the system will have \* 2 points

- conjugate poles and system will be unstable
- repeated poles and system will be unstable
- all poles on LHS and system will be stable
- all poles on Imaginary axis and system will be marginally stable

Choose the most appropriate answer for the question given below

Absolute stability is defined in terms of \*

1 point

- value of gain margin
- location of poles
- value of phase margin
- none of the above

Choose the most appropriate answer for the question given below

For Bode diagram representation, a 20db increase in the slope of Magnitude plot is observed \*

1 point

- due to a zero
- due to a pole
- either a pole or a zero
- none of the above

Choose the most appropriate answer for the question given below

In time response representation, the stability is mainly determined by the exponential part of the response of the system \*

2 points

- True
- False

Choose the most appropriate answer for the question given below

At break-in point, the root locus moves from real axis to the complex plane, where as at break-away point the root locus moves from complex plane towards the real axis. \*

2 points

- True
- False

Choose the most appropriate answer for the question given below

The finite error coefficient is equal to the D.C gain of a system \*

1 point

- False
- True

Choose the most appropriate answer for the question given below

The root locus plot always originates from a zero and terminates at a pole \*

1 point

- False
- True

Choose the most appropriate answer for the question given below

Sensitivity of closed loop system due to variation of parameter forward gain is less than the sensitivity of the open loop system due to variation of parameter gain. \*

1 point

- False
- True

Choose the most appropriate answer for the question given below

Nyquist plot is the analysis of RHS of S-Plane \*

1 point

- False
- True

Choose the most appropriate answer for the question given below

Bode Plot defines stability of a system in-terms of \*

2 points

- absolute stability
- relative stability
- location of poles and zeros
- none of the above

Choose the most appropriate answer for the question given below

Nyquist plot is a type of \*

1 point

- unipolar plot
- polar plot
- linear plot
- geometric plot

Choose the most appropriate answer for the question given below

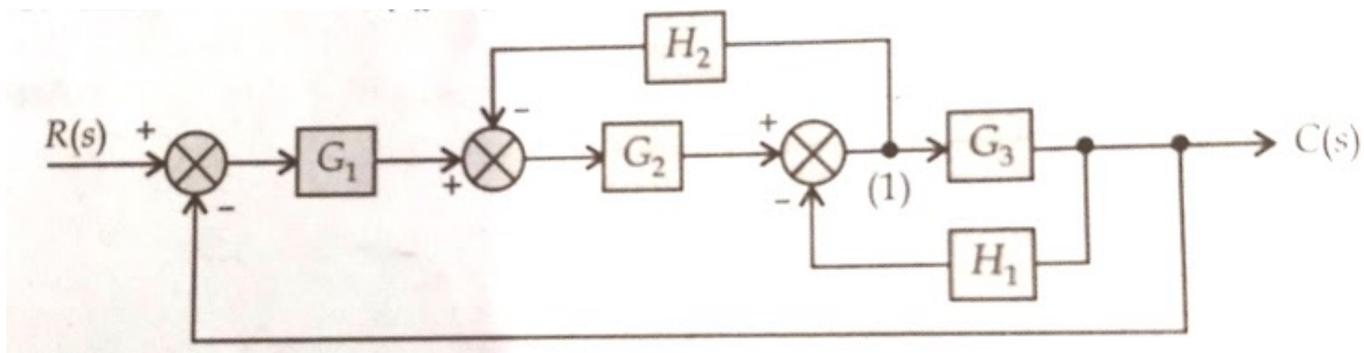
For a root Locus diagram, angle of departure needs to be calculated only for that open loop pole which is located on real axis \* 1 point

- True
- False

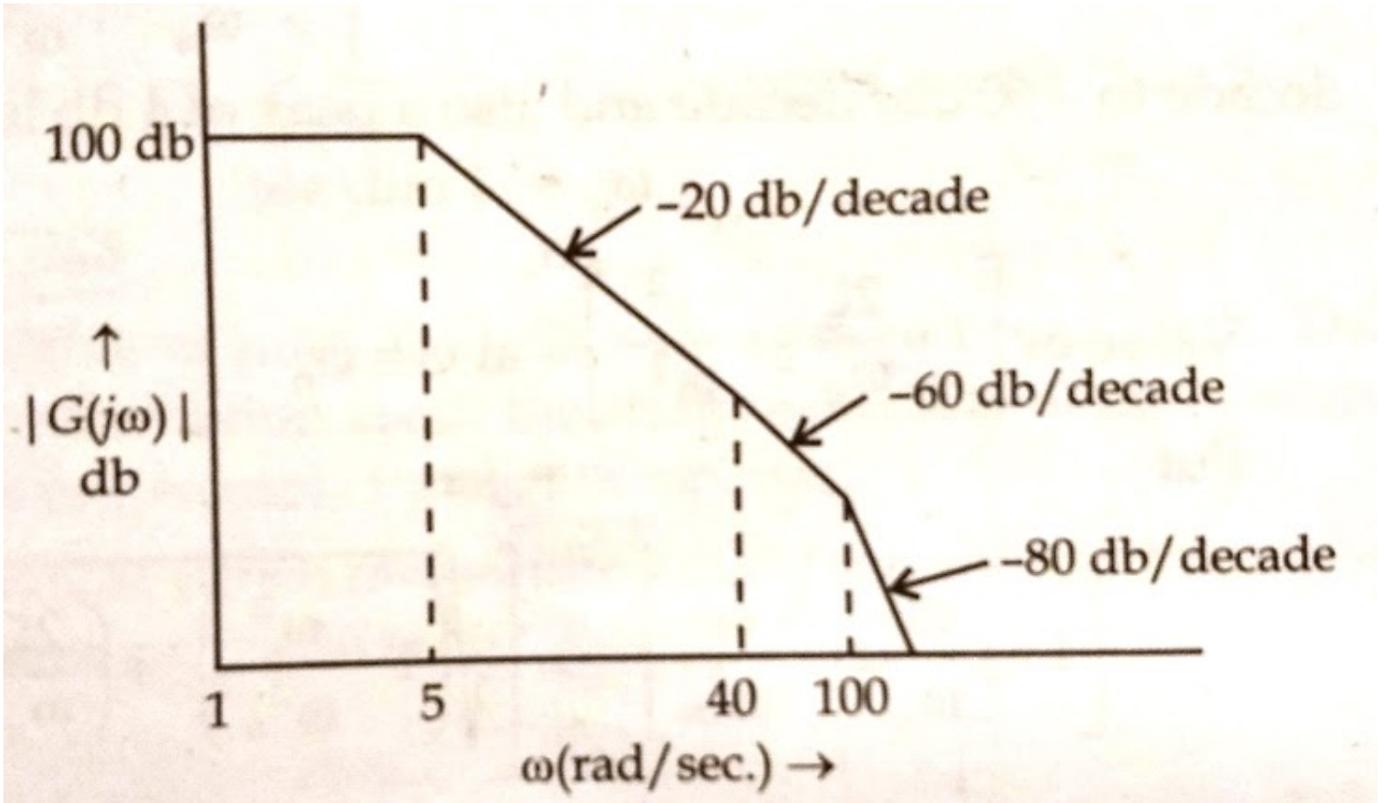
Write suitable answers

NOTE: A Sample entry of the transfer function may look like  $C(s)/R(s)=(G_1H_2H_3)/(1+G_1H_1+G_2H_2+G_1H_2H_3)$

Write the reduced expression of the ratio of  $C(s)/R(s)$  for the block diagram given below: 5 points



Determine the transfer function  $T(s)$ , for the Plot given in the figure, Also write the value of D.C gain (K). 5 points



Confirm Your Submission

I confirm that the answers submitted are correct to the best of my knowledge \*

SUBMIT

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