Q.20 Write down the five differences b/w OLLS & CLES.

Q.21 Define the Laplace transform & find Out he Laplace transform of unit stepsignal.

Q.22 Write down the equation of mathematical modelling of mechanical rotational system.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Define Root locus & write down all Construction rules of boot locus.

Q.24 Explain the time response of first order system for unit Impulse input.

Q.25 Differentiate between linear system and non-linear system.

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3rd Sem / Branch : Instrumentation & Control
Sub.: Control System Engineering

Time : 3Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 A control system in which the control action is somehow dependent on the O/P is

a) Close loop system
b) Open loop system
c) Automatic control system
d) All of these

Q.2 In an open loop control system

a) Output is independent of control input
b) Output is dependent on control input
c) Both are correct
d) None of these

Q.3 Standard test signal are

a) Step signal b) Ramp signal
c) Parabolic signal d) All of these

Q.4 "Human Respiration system" is a

a) Close loop control system

b) OLDS

c) Both

d) None

Q.5 Laplace transform of RAMP signal is

a) S b) 1/S

c) S^2 d) $1/S^2$

Q.6 The type-2 system has number of pole at origin.

a) 1 b) 2

c) 3 d) 4

SECTION-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define the control system.

Q.8 Write down any two difference between OLCS & CLCS.

Q.9 What is Laplace transform of impulse function?

Q.10 Define Peak time of second order system.

Q.11 Define Saturation.

Q.12 Define Relay.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Define limit cycle.

Q.14 Define any four types of non-linearity.

Q.15 Define stability by using RH criterion of given characteristics eq $4s^5+35^4+25^3+4s^2+5s+20=0$

Q.16 Define time domain specification any two

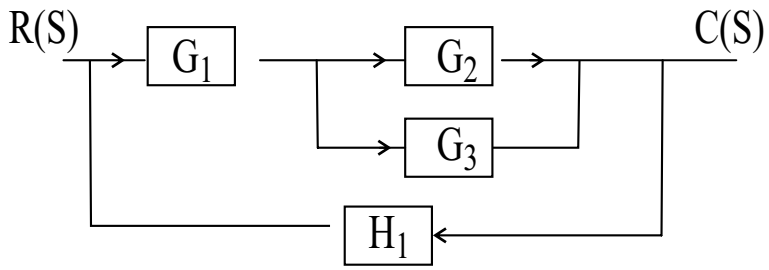
Rise time

Peak time

Peak Overshoot

Q.17 Discuss about the all five test signal used in Response analysis.

Q.18 Find Transfer function given block diagram



Q.19 Draw basic block diagram of closed loopbasic Control System.