Youtube link and contents for lectures on control systems

Lecture No.	Youtube link	Contents
1	https://youtu.be/0LYdTrv1ZKY	Introduction to control system and classification of control systems
2	https://youtu.be/MyGqm5GbDu4	Open loop and closed loop control systems
3	https://youtu.be/z-rR5ptJJxs	Feedback and feedforward control systems
4	https://youtu.be/TMqs0Lqx9ws	Modeling of continuous time LTI systems using linear differential equations and transfer function, concept of poles and zeros
5	https://youtu.be/aSBzgfxMdOk	Modeling of electrical systems
6	https://youtu.be/xB9IL2U9nok	Numerical examples on modeling of electrical systems
7	https://youtu.be/oDU6u0_4LOE	Modeling translational mechanical systems
8	https://youtu.be/p0zdU7SaQLg	Numerical examples on modeling of translational mechanical systems
9	https://youtu.be/ubdqfmypN0o	Modeling of rotational mechanical systems
10	https://youtu.be/qVg-JHTM3qY	Force to voltage, force to current analogy
11	https://youtu.be/_IxMY_dHVE8	Numerical examples on force to voltage and force to current analogy
12	https://youtu.be/LxOU4XQhy-w	Block diagram algebra and rules for block diagram reduction
13	https://youtu.be/xQO_aR6ibF8	Numerical examples on block diagram reduction techniques
14	https://youtu.be/BwAP6zQj3E0	Signal flow graph and Mason's gain formula
15	https://youtu.be/gFV6BQJHSZg	Numerical examples on signal flow graph
16	https://youtu.be/auvH_C1wwmo	Time domain analysis, standard test inputs, order and type of a system
17	https://youtu.be/90f-xi26oC4	Impulse response and step response of first order system
18	https://youtu.be/ks4T1k9bZM0	Second order system, its classification based on damping factor, impulse response of second order system
19	https://youtu.be/y78iSBl09Oc	Step response of second order system
20	https://youtu.be/5UwyhjBBM2A	Time domain specifications of second order underdamped system
21	https://youtu.be/413VpMM5jO8	Derivations of time domain specifications
22	https://youtu.be/Yr3-yo7k6IU	Numerical examples on time domain specifications of second order systems
23	https://youtu.be/bwiQRH4ZQ4A	Numerical examples on time domain specifications of second order systems
24	https://youtu.be/c8_b_0ZfdlI	Numerical examples on time domain specifications of second order systems
25	https://youtu.be/cusqxui5BIM	Steady state error, static error coefficients, steady state error for different test signals
26	https://youtu.be/gpcLVBrbqqA	Numerical examples on steady state analysis
27	https://youtu.be/XTJPL4d50mw	Numerical examples on steady state analysis
28	https://youtu.be/twABvIDApbc	Role of dominant pole and time domain specifications in control system design

29	https://youtu.be/_pkd1mRZJwo	Concept of stability, nature of response for various pole locations, stability conditions from pole locations
30	https://youtu.be/Y2Rpx0fzl3Y	Routh Hurwitz stability test
31	https://youtu.be/tk0dc9wiKC4	Special case 1 of Routh Hurwitz stability test
32	https://youtu.be/iSaiwj63vEw	Special case 2 of Routh Hurwitz stability test
33	https://youtu.be/yIKqjDIFBF8	Application of Routh Hurwitz stability test for analysis of conditional stability
34	https://youtu.be/QvWkaRYulec	Application of Routh Hurwitz stability test for analysis of relative stability
35	https://youtu.be/tce9_emc4CI	Root locus: definition, concept, angle and magnitude condition
36	https://youtu.be/sNEg7k6CL6E	Properties of root locus
37	https://youtu.be/DBG4wegZfkI	Procedure of sketching root locus
38	https://youtu.be/cBw5U9ryZgQ	Numerical example on root locus
39	https://youtu.be/tdRqDRbiwPQ	Numerical example on root locus
40	https://youtu.be/wUlcH8FVkAI	Numerical example on root locus
41	https://youtu.be/sXscKn0ku08	Numerical example on root locus
42	https://youtu.be/DHvdHugSiog	Numerical example on root locus
43	https://youtu.be/4yf2_1qwkuQ	Frequency domain analysis, frequency response function and frequency response
44	https://youtu.be/qBIwVLpBE74	Frequency domain specifications
45	https://youtu.be/8WGmiks7yVE	Derivations of resonant frequency and resonant peak
46	https://youtu.be/1wGyw1zmQhY	Correlation between time and frequency domain specifications
47	https://youtu.be/RKRapNdvYTg	Numerical examples on frequency domain specifications
48	https://youtu.be/0-bvDX1SXB0	Numerical examples on frequency domain specifications
49	https://youtu.be/EXHNFnAvs7E	Polar plot: concept and procedure to sketch polar plot
50	https://youtu.be/At0yB5-jdfo	Numerical example on polar plot
51	https://youtu.be/LY3U9fmae20	Numerical examples on polar plot
52	https://youtu.be/UzmRwn6oGT4	Nyquist plot and Nyquist stability analysis
53	https://youtu.be/lwEHLiGCEMw	Numerical example on Nyquist stability analysis
54	https://youtu.be/3s1rw47WZxE	Numerical example on Nyquist stability analysis
55	https://youtu.be/ignNV12Rz3s	Numerical example on Nyquist stability analysis
56	https://youtu.be/kC8O8wp4Rdw	Numerical example on Nyquist stability analysis
57	https://youtu.be/7Pszom28mc0	Bode plot: Concept, applications and procedure to sketch actual Bode plot
58	https://youtu.be/v0rvlKXmHuc	Stability analysis using Bode plot
59	https://youtu.be/9AJwwVK0okM	Asymptotic Bode plot
60	https://youtu.be/6m6Bm9KX9fQ	Numerical example on Bode plot
61	https://youtu.be/Qj02uHWXWao	Numerical example on Bode plot
62	https://youtu.be/9DyQushH1rc	Numerical example on Bode plot
63	https://youtu.be/aYac_pEI6oQ	Numerical example on Bode plot
64	https://youtu.be/BMb55GYDF2A	Numerical example on Bode plot
65	https://youtu.be/BXNGmFNTu7s	Numerical example on Bode plot
66	https://youtu.be/ADEBCBzla_k	Bode plot of systems with dead time
67	https://youtu.be/1qBg4CxJKT8	Determination of transfer function from Bode plot
68	https://youtu.be/zcxqlwD6-4Y	ON OFF controller
69	https://youtu.be/ndusdI11ywQ	PID controller: Control actions
70	https://youtu.be/BajS1IrNm-A	PID controller: Controller modes

71	https://youtu.be/DzmcBrO2jgs	Parallel forms of PID, effect of PID parameters on transient and steady state performance, response of P, I, D, PI, PD and PID controllers to step and ramp inputs
72	https://youtu.be/t5AszwRoOZs	Tuning of PID controller by open loop step response Ziegler and Nichol method
73	https://youtu.be/86b4pWiXD8w	Tuning of PID controller by closed loop ultimate cycle Ziegler and Nichol method
74	https://youtu.be/IXFi4KGOooQ	Application of Routh stability test in closed loop ultimate cycle Ziegler and Nichol method when transfer function is available
75	https://youtu.be/yecNWbkNACQ	Design of PID controller from time domain specifications (Root locus approach)
76	https://youtu.be/7Qd08F5Tjgg	Numerical example on design of PI controller using root locus approach
77	https://youtu.be/phyMa-57_D4	Numerical example on design of PD controller using root locus approach
78	https://youtu.be/O9Ryq0dPkeA	Numerical example on design of PID controller using root locus approach
79	https://youtu.be/otecKnm74Kk	Design of PID controller from frequency domain specifications (Bode plot approach)
80	https://youtu.be/7Yc9TLuvav8	Numerical example on design of PI controller using Bode plot approach
81	https://youtu.be/Yp3XuG0r_cM	Numerical example on design of PD controller using Bode plot
82	https://youtu.be/Jr4fIJINsRE	Numerical example on design of PID controller using Bode plot