



# G H RAISONI COLLEGE OF ENGINEERING NAGPUR

(An Autonomous Institute affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)

CRPF Gate No.3, Hingna Road, Digdoh Hills, Nagpur. Maharashtra-440016 (India)

## Course wise Teaching Plan for Session : Summer Term 2018

Course : Control Systems-I

Faculty : ssdudhe - SURAJ SATYAWAN

DUDHE

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	use of feedback, broad spectrum of system application	02/05/2018	BEEL303	A
1	2	Introduction to need for automation and automatic control	02/05/2018	BEEL303	A
1	3	block diagram, signal flow graphs	03/05/2018	BEEL303	A
1	4	TAE-1	03/05/2018	BEEL303	A
1	5	application to elementary systems	04/05/2018	BEEL303	A
1	6	simplifications, effect of feedback on parameter variations	04/05/2018	BEEL303	A
1	7	Control system components	05/05/2018	BEEL303	A
1	8	disturbance signal servomechanism and regulators	05/05/2018	BEEL303	A
1	9	their functional analysis and input output representation.	09/05/2018	BEEL303	A
2	10	TAE-2	09/05/2018	BEEL303	A
1	11	first order and second order system	10/05/2018	BEEL303	A
2	12	standard inputs, concept of gain and time constants	10/05/2018	BEEL303	A
2	13	type of control system	11/05/2018	BEEL303	A
2	14	Steady state error	11/05/2018	BEEL303	A
2	15	approximate methods for higher order system	12/05/2018	BEEL303	A
2	16	approximate methods for higher order system	12/05/2018	BEEL303	A
2	17	TAE-3	16/05/2018	BEEL303	A
3	18	Stability of control systems	16/05/2018	BEEL303	A
3	19	conditions of stability	17/05/2018	BEEL303	A
3	20	characteristics equations	17/05/2018	BEEL303	A
3	21	Routh- Hurwitz criterion	18/05/2018	BEEL303	A



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3	22	Routh- Hurwitz criterion	18/05/2018	BEEL303	A
3	23	special cases for determining relative stability.	19/05/2018	BEEL303	A
4	24	Root location and its effect on time response,	19/05/2018	BEEL303	A
4	25	elementary idea of root locus	23/05/2018	BEEL303	A
4	26	effect of addition of pole and zero on proximity of imaginary axis.	23/05/2018	BEEL303	A
5	27	Frequency response method of analyzing linear system	24/05/2018	BEEL303	A
4	28	TAE-5	24/05/2018	BEEL303	A
5	29	Nyquist and Bode Plots	25/05/2018	BEEL303	A
5	30	Stability and accuracy analysis from frequency response,	25/05/2018	BEEL303	A
5	31	open loop and close loop frequency response	26/05/2018	BEEL303	A
5	32	Nyquist Criterion	26/05/2018	BEEL303	A
5	33	Nyquist Criterion	30/05/2018	BEEL303	A
5	34	Effect of variation of gain and addition of pole and zero on response plot	30/05/2018	BEEL303	A
5	35	stability margin in frequency response	31/05/2018	BEEL303	A
6	36	State variable method of analysis, with numericals	31/05/2018	BEEL303	A
6	37	characteristics of system state	01/06/2018	BEEL303	A
6	38	choice of state variables	01/06/2018	BEEL303	A
6	39	Physical Variable	02/06/2018	BEEL303	A
6	40	Phase Variable	02/06/2018	BEEL303	A
6	41	Canonical variable	06/06/2018	BEEL303	A
6	42	representation of vector matrix differential equation,	06/06/2018	BEEL303	A



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6	43	standard form, relation between transfer function and state variables.	07/06/2018	BEEL303	A
6	44	Solution of state avariable	07/06/2018	BEEL303	A
6	45	Advanced topics	08/06/2018	BEEL303	A
1	46	Rivision	08/06/2018	BEEL303	A
3	47	Rivision	09/06/2018	BEEL303	A
5	48	Rivision	09/06/2018	BEEL303	A