

BHARAT INSTITUTE OF ENGINEERING & TECHNOLOGY

SIVARAM VIHAR, GHATAKESWAR HILLS
MOHADA, BERHAMPUR (GM.)



STUDENT'S ATTENDANCE REGISTER

Time	9:05 to 9:55	9:55 to 10:45	11:35 to 12:25	12:25 to 1:15	
Day					
Mon				✓	
wed		✓			
Thu			✓		
Fri			✓		

Year/ Session	3rd year, (2022-23)
Semester & Branch	6th sem, ETC
Subject with Code	control systems & components
Name of the Faculty Member	Biswajit Gouda

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
FEB	2nd week	13/02/2023	1. <u>Fundamental of control system</u> → classification of control system.
		14/02/2023	→ open loop system & closed loop system and its comparison..
		16/02/2023	→ Effects of feedback.
		17/02/2023	→ Standard test signals (step, Ramp, parabolic, impulse functions).
	3rd week	23/02/23	→ Servomechanism.
		23/02/23	→ Regulatory (Regulating systems).
	4th week		2. <u>Transfer functions.</u>
		24/02/23 25/02/23	→ Transfer function of a system & impulse response.
		27/02/23	→ properties, Advantages & disadvantages of transfer function.
		28/02/23	→ poles & Zeros of transfer function.
MARCH	4th week	29/03/23	→ Representation of poles & Zeros on the s-plane.
		21/03/23	→ Simple problems of transfer function of network.
	4th week		3. <u>Control system components & Mathematical Modeling of physical system</u>
		22/03/23 23/03/23	→ components of control system. → potentiometer, synchros, diode

Signature of the Faculty:

Signature of the Principal/Course Co-ordinator/HOD:

[Signature]

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic	
MARCH	1st week	24/03/23	Modulator & demodulators. → DC MOTORS, AC servomotors.	
		25/03/23	→ Modelling of Electrical systems (R, L, C Analogous systems)	
	5th week		4. Block diagram & signal flow graph	
		27/03/23	→ Definition of Basic element of a Block diagram.	
		29/03/23	→ Canonical form of closed loop systems.	
		29/03/23	→ Rules for block diagram Reduction.	
		31/03/23	→ procedure of Reduction of Block diagram.	
		03/04/23	→ Simple problem for equivalent transfer func?	
	APRIL	2nd week	04/04/23	→ Basic definition in SFG & properties.
			05/04/23	→ Mason's gain formula.
06/04/23			→ steps for solving signal flow graph.	
08/04/23			→ Simple problems in signal	

Signature of the Faculty: B. Gauda

Signature of the Principal/Course Co-ordinator/HOD: A. M. M.

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
APRIL	3rd week	10/04/23	few graph for Network. 5. Time domain Analysis of <u>Control Systems</u> . → Definition of time, stability, steady state response, accuracy, transient accuracy, in-sensitivity and robustness.
		11/04/23	→ System time Response.
		12/04/23	→ Analysis of Steadystate error.
	4th week	17/04/23	→ Types of input and steadystate error (Step, ramp, parabolic).
		18/04/23	→ parameters of first order system + second order systems.
		20/04/23	→ Derivation of time-response specifications (Delay time, Rise time, peak time, settling time, peak overshoot).
		21/04/23	5. Feedback characteristics of <u>control systems</u> . → Effect of parameter variation in openloop system. + closed loop systems.
	5th week	24/04/23	→ Introduction to Basic control action + Basic modes of feedback control: proportional, integral & derivative.
		25/04/23	→ Effect of feedback on overall gain, stability.
		26/04/23	→ Realisation of controllers (P, PI, PD,

Signature of the Faculty: B. Gowda

Signature of the Principal/Course Co-ordinator/HOD: [Signature]

B.I.E.T., COURSE PLAN

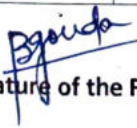
Month	Week	Class Day	Theory/Practical Topic
MAY	1st week		PID) with OPAMP.
		27/04/23	7. Stability concept & Root locus Method → Effect of location of poles on stability.
		28/04/23	→ Routh Hurwitz stability criteria.
		03/05/23	→ Steps for Root locus Method.
	2nd week	04/05/23	→ Root locus Method of design (Simple problem).
			8. Frequency Response Analysis & Bode plot
		08/05/23	→ Frequency Response, Relationship between time & frequency Response.
		09/05/23	→ Methods of frequency Response.
		10/05/23	→ Polar plots & steps for polar plot.
		11/05/23	→ Bode plot & steps for bode plot.
		12/05/23	→ Stability in frequency domain, gain margin & phase margin.

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
MAY	3 rd week	15/05/23	→ Nyquist plots, Nyquist stability criterion.
		16/05/23	→ Simple problems as above. 9. <u>State variable Analysis</u>
	4 th week	22/05/23	→ concept of state, state variables, state model.
		23/05/23	→ State models for linear continuous time functions (simple).

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