

BHARAT INSTITUTE OF ENGINEERING & TECHNOLOGY

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



STUDENT'S ATTENDANCE REGISTER

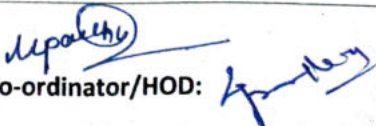
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Year/ Session	13-02-2023 - 23-05-2023
Semester & Branch	6 th Semester [E & TC]
Subject with Code	Advanced Communication Engg. (TH-1)
Name of the Faculty Member	Purna Ch. Nahak

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
F E B R U A R Y	2 nd	13/02/23	①. <u>RADAR & NAVIGATION AIDS</u> :- 1.1. Basic Radar, advantages and applications.
		14/02/23	1.2. Working principle of simple Radar system, its types.
		15/02/23	1.3. Radar range equation & performance factor of radar.
		16/02/23	1.4. Working principle of pulsed radar system.
		17/02/23	1.5. Function of Radar indication and working principle of moving target indicator.
		20/02/23	1.6. Define Doppler effect and working principle of C.W. Radar.
		21/02/23	1.7. Radar aids to navigation
		22/02/23	1.8. MTI Radar - working principle
			1.9. Aircraft landing system.
			1.10. Navigation satellite system: (NAVSAT) & GPS system.

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B.I.E.T., COURSE PLAN

Theory/Practical Topic

Class Day

Week

Month

Month	Week	Class Day	Theory/Practical Topic
F E B R U A R Y			② <u>Satellite Communication</u>
		23/02/23	2.1. Basic satellite transponder & Kepler's laws.
		24/02/23	2.2. Satellite orbital patterns & elevation (LEO, MEO & GEO) categories.
	3 rd	25/02/23	2.3. Concept of geostationary satellite, calculate its height, velocity & round trip time delay & their advantage & disadvantage.
		27/02/23	2.4. Working of the satellite sub system.
			2.5. Satellite frequency allocation & frequency bands.
			2.6. General structure of satellite link system (uplink, downlink, Transponder, processing).
	18/03/23	2.7. Working principle of direct broadcast system (DBS).	

Signature of the Faculty: *Shruti*

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

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
M A R C H	3 rd	20/03/23	2.8. Working Principle of VSAT system. 2.9. Define multiple accessing and name various types.
		21/03/23	2.10. Time division multiple accessing (TDMA) & code division multiple accessing (CDMA) - block diagram, its advantages & disadvantages.
		22/03/23	2.11. Satellite application - communication satellite (MSAT), Digital satellite radio.
	4 th	23/03/23	2.12. Working principle of GPS Receiver & transmitter and applications.
		25/03/23	2.13. Optical satellite link transmitter and receiver.

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
M A R C H	4 th	27/03/23	<p>③ <u>OPTICAL FIBER COMMUNICATION</u></p> <p>3.1. Basic Principle of optical communication.</p> <p>3.2. Compare the advantage and disadvantage of optical fibers & metallic cables.</p> <p>3.3. Electromagnetic frequency and wave line spectrum.</p>
		28/03/23	3.4. Types of optical fibers & principles of propagation in a fiber using Ray theory.
		29/03/23	<p>3.5. optical fiber construction.</p> <p>3.6. Define terms; velocity of propagation, critical angle, acceptance angle numerical aperture.</p>
		31/03/23	3.7. optical fiber communication system-block diagram and working principle.

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
A P R I L			3.8. Modes of propagation and index profile of optical fiber.
		02/04/23	3.9. Types of optical fiber configuration: single-mode step index, multimode step index, multimode graded index.
	1 st	04/04/23	3.10. Attenuation in optical fibers - absorption losses, scattering losses, bending losses, core and cladding losses - Dispersion - material dispersion, waveguide dispersion, intermodal dispersion.
		05/04/23	
		06/04/23	3.11. Optical sources. (Transmitter) and types - LED - semiconductor laser diodes.
	08/04/23	3.12. LASER - Its working principles, block diagram using laser feedback control circuit.	

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
A P R I L	2 nd	10/04/23	2.13. Optical detectors - PIN & APD diodes, and block diagram using APD connections. Splices - optical cables - Coaxial.
		11/04/23	
		12/04/23	2.14. Optical repeater and single channel system.
		13/04/23	2.15. Applications of optical fibers - civil, industry and military applications.
			2.16. Concept of wave length division multiplexing (WDM) principles.

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
A P R I L	3 rd		④. <u>TELECOMMUNICATION SYSTEM</u> :-
		15/04/23	4.1. Working of Electronic telephone system. (Telephone set).
		17/04/23	4.2. Function of switching system & call procedures.
			4.3. space & time switching.
		18/04/23	4.4. Numbering plan of telephone networks (National schemes & international numbering).
		19/04/23	4.5. Working principle of a PBX & digital EPABX.
		20/04/23	4.6. Units of Power measurement.
			4.7. Working principle of internet Protocol telephone.
		24/04/23	4.8. Working principle of internet telephone.

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B.I.E.T., COURSE PLAN


Month	Week	Class Day	Theory/Practical Topic
A P R I L	4 th	25/04/23	⑤ <u>DATA COMMUNICATION</u> 5.1. Basic concept of data communication.
		26/04/23	5.2. Architecture, protocols and standards.
		27/04/23	5.3. Data Communication circuits.
		29/04/23	5.4. Types of transmission and transmission modes.
M A Y	1 st	01/05/23	5.5. DATA communication codes. 5.6. Basic idea of error control & error detection.
		02/05/23	5.7. MODEM & its block diagram & common features voice band modem.

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
M A Y	1 st	25/04/22	① <u>WIRELESS COMMUNICATION</u> : 6.1. Basic concept of cell phone, frequency reuse channel assignment strategic handoff co-channel interference and system capacity of a cellular radio systems.
		24/04/22	
		06/05/23	6.2. Concept of improving coverage and capacity in cellular system (cell splitting, sectoring).
		08/05/23	6.3. wireless systems and its standards.
	2 nd	09/05/23	6.4. Discuss the G.S.M (Global system for mobile) service & features.

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
M A Y	2 nd	10/05/23	6.5. Architecture of GSM system & GSM mobile station & channel types of GSM system.
		11/05/23	6.6. working of forward and reverse CDMA channel, the frequency and channel specifications.
		13/05/23	
	3 rd	15/05/23	6.7. Architecture and features of GPRS.
		16/05/23	6.8. Discuss the mobile TCP, IP protocol.
		17/05/23	
		18/05/23	6.9. working of wireless application protocol (WAP)

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B.I.E.T., COURSE PLAN

h	Week	Class Day	Theory/Practical Topic
M A Y	4 th	20/05/23	6.10. features of SMS, MMS, 1G, 2G, 3G, 4G & 5G wireless network.
		22/05/23	
		23/05/23	

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