Course Number and Name
BEC005 - BLUETOOTH TECHNOLOGY

Credits and Contact Hours
3 and 45

Course Coordinator's Name
Mr Jeyakumar

Text Books and References

Text Books:
1.Blue tooth Connect without cables Jennifer Bray and c.f. stuntman Pearson Education 2001.

References:
1.Blue Tooth Reveeled: Brent A. Miller and C.Bisdikian, Pearson Education 2001.

2.Bluetooth Demystified Nathan J.Miller Tata Mc Graw Hill 2001

3. www.radio-electronics.com/info/.../**bluetooth/bluetooth_**overview.php

Course Description

- To study the fundamental concepts of Bluetooth module.
- To analyze the protocol operation.
- To gain knowledge on various low power modes and Quality of Service parameters.
- To understand the security issues

Prerequisites	Co-requisites
Computer Communication and Networks	Nil

required, elective, or selected elective (as per Table 5-1)
Selected Elective

Course Outcomes (COs)

CO1: Understand Bluetooth's standards, architecture and operation.
CO2 : Understand the APIs, radio interface used by Bluetooth..
CO3 : Configure Bluetooth-enabled devices including mobile phones, PDAs and Access Points.
CO4 : Install and configure Bluetooth hardware and software.
CO5: Configure LAN access, remote access and FAX gateway access point solutions using
        Bluetooth.
CO6 : Understand the Protocol layers used by Bluetooth.

Student Outcomes (SOs) from Criterion 3 covered by this Course

COs/SOs	a	b	c	d	e	f	g	h	i	j	k
CO1	H			M		M			M	M	
CO2	M	M	H					L			
CO3	M		H	H	H		M		H		
CO4	M						L				M
CO5		M			M				M		
CO6		M	H		M	H				M	

List of Topics Covered

UNIT – I   BASIC CONCEPTS   **9**

Origin, Blue tooth SIG, Protocol Stack, Security, applications   and Profiles,   Management, Test and qualification Technology Basics. RF and IR Wireless Communication.

UNIT – II   BLUETOOTH MODULE   **9**

Antennas Patterns, Gain and losses; Types of antennas: on chip antennas Radio interface: FH, Modulation, symbol timing, power emission and control, Performance Parameters, RF architecture, Blur RF, Base band:- Blue tooth Device address system Timing ,Physical links , Packet, structuring types and construction, channel coding and time base synchronization.

UNIT – III   LINK CONTROLLER AND MANAGEMENT   **9**

Link controller and management: LCP, controller states, Pico net and scattered operations, Master/Slave Role switching LC Architectural Overview, LMC< Link set up, Quality of service, LMP version, Name Represent, Test Mode.

UNIT – IV   BLUETOOTH HOST   **9**

L LC and adaptation Protocol L2cap signalling: Connections: Blue Tooth profiles; Version 1.0; Generic Profiles, Serial and Object exchange.

UNIT – V   SECURITY   **9**

Encryption and security Key generation, security Modes and architecture, Low power Operation and QOS Management.