TCET/FRM/IP-02/10 Revision: B

Semester Plan
(Practical / Tutorials / Assignment)

Semester: **VII** Course: **B.E IT** Batches: **B3, A4**

Subject: Wireless Technology Class: **B.E IT-A,B** Batch size: **20** Students

Laboratory faculty in charge:Ms. Purvi Sankhe Lab. Assistant /Attendant :Vaibhav Chavan (Lab Attendant 213)

Note: **Experiment planned as per University Curriculum**

Basic Experiments:

Sr. No.	TITLES Experiments / Tutorials / Assignment (Planning with use of Technology)	Planned Date	Completion Date	Remarks
1	Implementation of DSSS/FHSS in spread spectrum system.	**A4** / **B3**		
2	Frequency reuse using GSM.	**A4** / **B3**		
3	Generation of Pseudo Random sequences.	**A4** / **B3**		
4	Authentication and privacy in GSM using A3/A5/A8 algorithm.	**A4** / **B3**		
Design/ Development Experiments:				
5	Implementation of CDMA.	**A4** / **B3**		
6	Analysis and design of wireless network using Netsim	**A4** / **B3**		
7	Design convolutional encoder with rate r=k/n=1/2=2/3…….	**A4** / **B3**		
8	Design of wireless sensor network routing algorithm using NS2.	**A4** / **B3**		
9	To study the design requirements of IEEE 802.15.1 protocol architecture & its design	**A4** / **B3**		
10	Study the design issues on “Economics of wireless communication standards”	**A4** / **B3**		
Group Learning Activity:				

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11	**Case Study on:** 1. Case study on various multiple access. 2. Compare the various wireless generations 1G, 2G, 3G, 4G & 5G with respect to their applications, limitations, spectrum usage, data rates, channel capacity etc.	**A4** **B3**		
12	**Project:** 1. To design and discuss the security issues of 4G wireless network system in context to its data rates, number of users, hardware enhancement w.r.t. 3G etc.	**A4** **B3**		
13	**IEEE Transaction/Journal:** Hardware Implementation of an OFDM Transceiver for 802.11n systems , International Journal of Scientific & Engineering Research, vol.4, no.6, Jun. 2013, ISSN 2229-5518.	**A4** **B3**		

Major Projects Objective: To get hands on experience to execute projects with respect to student choice in the following areas.
The areas are :
1.Research 2. Core 3. Multidisciplinary 4. Application

S.No	Project Title	Class	Group Size/ Project Hours	Project Type	Reference
1	To design and implement the security aspects for IEEE 802.11g standards using index policy method	BE	3-4	Major	Technology Based Learning
2	Design & develop the performance evaluation of WLAN for 100 nodes	BE	3-4	Major	Technology Based Learning
3	Wireless Sensor Network System using Raspberry & Zigbee for Environmental monitoring application	BE	3-4	Major	Technology Based Learning
4	Enhanced security algorithms for 3G/4G networks.	BE	3-4	Major	Technology Based Learning

	Planned	Completed		Planned	Completed		Planned	Completed
No. of Prac	**Basic Exp:** 04 **Design Base Exp**: 06 **Group Learning :** 03		No. of Assignments	03		No. of Tutorial	01(Low Profile Students)	

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DOSLNE:	DOSLE (engaged in some other dates):

Group activities are required to be added with the practical related to course to enhance the learning activity of the student in the course. Group activity includes: Group presentation, new experiment design, mini projects etc.

Note:

1. The practical plan date and completion date shall be in compliance. For any non-compliance reason(s) required to be stated in remark column.
2. Learning objective and outcome shall be clearly stated with each of experiments/ tutorials/ assignments and are required to be mapped at the end of the semester.
3. Entry for DOSLE (engaged on some other date) shall be done with proper mapping to DOSLNE.

SD/-

(Ms.Nishtha Mathur)

Name & Signature of Faculty	Signature of HOD	Signature of Principal / Dean Academic
Date:	Date:	Date: