



VEL TECH MULTI TECH Dr RANGARAJAN Dr.SAKUNTHALA ENGINEERING COLLEGE

(An ISO 9001: 2008 Certified Institution)
(Owned by 'VEL Shree R. Rangarajan
Dr. Sakunthala Rangarajan Educational Academy)
(Approved by AICTE, New Delhi &
Govt. of Tamil Nadu and affiliated to Anna University)



SYLLABUS

WEEKLY SCHEDULE

VIII SEMESTER

2015-16

DEPARTMENT OF ECE

IV YEAR DEGREE COURSE

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WEEKLY SCHEDULE
ACADEMIC YEAR: 2015-16

Sl.No	WEEKS	DATE	
		FROM	TO
1	WEEK1	18.01.16	23.01.16
2	WEEK2	25.01.16	30.01.16
3	WEEK3	01.02.16	06.02.16
4	WEEK4	08.02.16	13.02.16
5	WEEK5	15.02.16	20.02.16
6	WEEK6	22.02.16	27.02.16
7	WEEK7	29.02.16	05.03.16
8	WEEK8	07.03.16	12.03.16
9	WEEK9	16.03.16	20.03.16
10	WEEK10	22.03.16	26.03.16
11	WEEK11	27.03.16	02.04.16
12	WEEK12	03.04.16	09.04.16
13	WEEK13	11.04.16	16.04.16
14	WEEK14	18.04.16	23.04.16
15	WEEK 15	25.04.16	30.04.16

SUBJECT CONTENTS

SL.NO	SUBJECT CODE	SUBJECT NAME
THEORY		
1	EC2050	Mobile Adhoc Networks
2	EC2043	Wireless networks
PRACTICAL		
3	EC2451	Project Work

TEST / EXAM SCHEDULE

SL.NO	SUBJECT CODE	SUBJECT NAME	UNIT TEST I	UNIT TEST II	PRE MODEL EXAM	MODEL EXAM
1	EC2050	Mobile Adhoc Networks	01.02.16	15.02.16	29.02.06	01.04.16
2	EC2043	Wireless networks	02.02.16	16.02.16	01.03.16	04.04.16

EC2050 MOBILE ADHOC NETWORKS

UNIT I INTRODUCTION

WEEK 1

Introduction to adhoc networks – definition, characteristics features, applications Characteristics of Wireless channel, Adhoc Mobility Models:- Indoor and outdoor models.

WEEK 2

UNIT TEST 1

UNIT II MEDIUM ACCESS PROTOCOLS

WEEK 3

MAC Protocols: design issues, goals and classification. Contention based protocols- with reservation,

WEEK 4

Scheduling algorithms, protocols using directional antennas.

WEEK 5

IEEE standards: 802.11a, 802.11b, 802.11g, 802.15. HIPERLAN.

WEEK 6

UNIT TEST 2

UNIT III NETWORK PROTOCOLS

WEEK 7

Routing Protocols: Design issues, goals and classification. Proactive Vs reactive routing, Unicast routing algorithms, Multicast

WEEK 8

Routing algorithms, hybrid routing algorithm, Energy aware routing algorithm, Hierarchical Routing, QoS aware routing.

WEEK 9

UNIT TEST 3

UNIT IV END-END DELIVERY AND SECURITY

WEEK 10

Transport layer: Issues in designing- Transport layer classification, adhoc transport protocols

WEEK 11

Security issues in adhoc networks: issues and challenges, network security attacks, secure routing protocols.

WEEK 12

UNIT TEST 4

UNIT V CROSS LAYER DESIGN AND INTEGRATION OF ADHOC FOR 4G

WEEK 13

Cross layer Design: Need for cross layer design, cross layer optimization,

WEEK 14

Intergration of adhoc with Mobile IP networks. Parameter optimization techniques, Cross layer cautionary prespective.

WEEK 15
UNIT TEST 5

WEEK 16&17
MODEL EXAM

TEXTBOOKS

1. C.Siva Ram Murthy and B.S.Manoj, Ad hoc Wireless Networks Architectures and protocols, 2nd edition, Pearson Education. 2007
2. Charles E. Perkins, Ad hoc Networking, Addison – Wesley, 2000

REFERENCES:

1. Stefano Basagni, Marco Conti, Silvia Giordano and Ivan stojmenovic, Mobile ad hoc networking, Wiley-IEEE press, 2004.
2. Mohammad Ilyas, The handbook of adhoc wireless networks, CRC press, 2002.
3. T. Camp, J. Boleng, and V. Davies “A Survey of Mobility Models for Ad Hoc Network Research,” Wireless Commun. and Mobile Comp., Special Issue on Mobile Ad Hoc Networking Research, Trends and Applications, vol. 2, no. 5, 2002, pp. 483–502.
4. A survey of integrating IP mobility protocols and Mobile Ad hoc networks, Fekri M. Abduljalil and Shrikant K. Bodhe, IEEE communication Survey and tutorials, v 9.no.1 2007
5. V.T.Raisinhani and S.Iyer “Cross layer design optimization in wireless protocol stacks”Comp. communication, vol 27 no. 8, 2004.
6. V.T.Raisinhani and S.Iyer,”ÉCLAIR; An Efficient Cross-Layer Architecture for wireless protocol stacks”,World Wireless cong., San francisco,CA,May 2004.
7. V.Kawadia and P.P.Kumar,”A cautionary perspective on Cross-Layer design,”IEEE Wireless commn., vol 12, no 1,2005.

EC2043 WIRELESS NETWORKS

UNIT I MULTIPLE RADIO ACCESS

WEEK 1

Medium Access Alternatives Access for Data Oriented Networks, Handoff and Roaming Support, Security and Privacy. Fixed-Assignment for Voice Oriented Networks Random

WEEK 2

UNIT TEST-1

UNIT II WIRELESS WANS

WEEK 3

First Generation Analog, Second Generation TDMA – GSM, Short Messaging.

WEEK 4

Service in GSM, Second Generation CDMA – IS-95, GPRS –

WEEK 5

Third Generation Systems (WCDMA/CDMA 2000)

WEEK 6

UNIT TEST-2

UNIT III WIRELESS LANS

WEEK 7

Introduction to wireless LANs - IEEE 802.11 WLAN – Architecture and Services, Physical Layer- MAC sublayer-

WEEK 8

MAC Management Sublayer, Other IEEE 802.11 standards, HIPERLAN, WiMax standard.

WEEK 9

UNIT TEST-3

UNIT IV ADHOC AND SENSOR NETWORKS

WEEK 10

Characteristics of MANETs, Table-driven and Source-initiated On Demand routing protocols,

WEEK 11

Hybrid protocols, Wireless Sensor networks- Classification, MAC and Routing protocols.

WEEK 12

UNIT TEST-4

UNIT V WIRELESS MANS AND PANS

WEEK 13

Wireless MANs – Physical and MAC layer details, Wireless PANs – Architecture of Bluetooth Systems,

WEEK 14

Physical and MAC layer details, Standards.

WEEK 15

UNIT TEST-5

WEEK 16&17

MODEL EXAM

TEXT BOOKS:

1. William Stallings, "Wireless Communications and networks" Pearson / Prentice Hall of India, 2nd Ed., 2007.
2. Dharma Prakash Agrawal & Qing-An Zeng, "Introduction to Wireless and Mobile Systems", Thomson India Edition, 2nd Ed., 2007.

REFERENCES:

1. Vijay. K. Garg, “Wireless Communication and Networking”, Morgan Kaufmann Publishers, 2007.
2. Kaveth Pahlavan, Prashant Krishnamurthy, "Principles of Wireless Networks", Pearson Education Asia, 2002.
3. Gary. S. Rogers & John Edwards, “An Introduction to Wireless Technology”, Pearson Education, 2007.
4. Clint Smith, P.E. & Daniel Collins, “3G Wireless Networks”, Tata McGraw Hill, 2nd Ed., 2007.
