



SOCIETY OF ST. FRANCIS XAVIER, PILAR'S
FR. CONCEICAO RODRIGUES COLLEGE OF ENGINEERING

(Approved by AICTE & Affiliated to University of Mumbai)

Fr. Agnel Ashram, Bandstand, Bandra (W), Mumbai - 400 050.

Phone : (022) 6711 4000, 6711 4101, 6711 4104

Website : www.frcrce.ac.in • Email : crce@fragnel.edu.in

Computer Engineering (Academic Year:2023-2024)

Course Code: CSC603	
Course Name: Mobile Computing Class: TE (A)	
Course Teacher: Dr. Ashok Kanthe	
Course Outcomes (CO): <i>At the End of the course students will be able to</i>	
CSDC7022.1	Identify basic concepts and principles in computing, cellular architecture.
CSDC7022.2	Describe the components and functioning of mobile networking.
CSDC7022.3	Classify variety of security techniques in mobile network
CSDC7022.4	Apply the concepts of WLAN for local as well as remote applications.
CSDC7022.5	Describe Long Term Evolution (LTE) architecture and its interfaces.



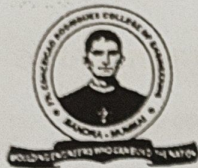
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Course Lesson Plan

Sr. No.	Proposed Date	Actual Date	Topics	CO	Teacher's Remark	HoD's Remark
1	09-01-24	9-1-24	Introduction to Mobile Computing,	1		
2	10-01-24	10-1-24	Telecommunication Generations, Cellular systems.	1		
3	11-01-24	11-1-24	Electromagnetic Spectrum, Antenna, Signal Propagation, Signal Characteristics	1		
4	16-01-24	16-1-24	Multiplexing, Spread Spectrum: DSSS & FHSS.	1	Assignment 1(Questions on Module 1 solve and submit)	
5	17-01-24	17-1-24	GSM Mobile services- GSM Mobile services	2		
6	18-01-24	18-1-24	System Architecture	2		
7	22-01-24	23-1-24	Radio interface, Protocols	2	Holiday- Ayodhya Festival.	
8	24-01-24	25-1-24	Localization and Calling, Handover security (A3, A5 & A8)	2		
9	25-01-24			3		
	26-01-24		Republic Day - Holiday.			
10	29-01-24	08-2-24	GPRS system and protocol architecture	2	Leave - Taken.	
11	31-01-24	12-2-24	UTRAN, UMTS core network;	2		
12	01-02-24	14-2-24	Improvements on Core Network	2	Assignment 2(Questions on Module 2 solve and submit)	
	05-02-24 to 07-02-24		Unit Test-1			
13	08-02-24	15-2-24	Mobile Networking- Medium Access Protocol	2		
14	12-02-24	28-2-24	Internet Protocol and Transport layer	2		



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15	14-02-24	28-2-24	Mobile IP: IP Packet Delivery	2	Assignment 3, Technical Paper study, understatnd and present in class in group and submit the summary of paper.
16	15-02-24	29-2-24	Agent Advertisement and Discovery, Registration		Seminar - Higher studies.
	19-02-24		Holiday-Chtrapati Shivaji Maharaj Jayanti ✓		
	20-02-24 to 23-02-24		Cresendo Technical Festival		
17	26-02-24	29-2-24	Tunneling and Encapsulation, Reverse Tunneling	2	
18	28-02-24	4-3-24	Mobile TCP: Traditional TCP, Classical TCP Improvements like Indirect TCP	2	
19	29-02-24	4-3-24	Snooping TCP & Mobile TCP, Fast Re transmit/ Fast Recovery	2	
20	04-03-24	6-3-24	Transmission/Timeout Freezing, Selective Re transmission	2	
21	06-03-24	6-3-24	Wireless Local Area Networks- Wireless Local Area Networks: Introduction, Infrastructure and ad-hoc Network.	4	
22	07-03-24	7-3-24	IEEE 802.11: System architecture, Protocol architecture, Physical layer	4	
23	23-03-24	7-3-24	Medium access control layer, MAC management 802.11a, 802.11b standard	4	
24	24-03-24	11-3-24	Wi-Fi security: WEP, WPA, Wireless LAN Threats, Securing Wireless Networks	3	
25	05-03-24	11-3-24	Bluetooth: Introduction, User Scenario, Architecture, protocol stack	4	



26	06-03-24	20-3-24	Mobility Management- Mobility Management: Introduction, IP Mobility	4		
27	07-03-24	20-3-24	Optimization, IPv6	4		
	08-03-24	20-3-24	Holiday- Mahashivaratri			Taken Leave.
28	12-03-24	21-3-24	Macro Mobility : MIPv6,	4		
29	13-03-24	21-3-24	FMIPv6	4		
30	14-03-24	21-3-24	Micro Mobility: CellularIP			Holiday Euphoria
	18-03-24	27-3-24	Students Activity- Cultural Festival Euphoria 2024			
31	20-03-24	27-3-24	HAWAII,	4		
32	21-03-24	27-3-24	HMIPv6	4		
	25-03-24		Holiday- Dhulivandan			
33	27-03-24	4-4-24	Long-Term Evolution (LTE) of 3GPP- Long- Term Evolution (LTE) of 3GPP : LTE System Overview,	5		
34	28-03-24	4-4-24	LTE/SAE Requirements, SAE Architecture	5		
	29-04-24		Holiday- Good Friday			
	01-04-24 to 03-04-24		Unit Test-2			
35	08-04-24	10-4-24	EPS: Evolved Packet System, E-UTRAN			
36	08-04-24	10-4-24	Voice over LTE (VoLTE), Introduction to LTE- Advanced.	5		
	09-04-24		Holiday- Gudi Padava			
	11-04-24		Holiday- Ramzan Eid			
37	15-04-24	15-4-24	Self Organizing Network (SON-LTE)	5		



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38	15-04-24 (Extra)	15-4-24	SON for Heterogeneous Networks (HetNet)	5		
39	16-04-24 (Extra)	15-4-24	Comparison between Different Generations (2G, 3G, 4G and 5G), Introduction to 5G.	5		
	19-04-24		Remedial Session			
	13-05-24		University ESE Examination			

Text Books/ Reference Books:

Text Books:

- 1 Jochen Schiller, "Mobile Communication", Addison Wesley, Pearson Education.
- 2 William Stallings "Wireless Communications & Networks", Second Edition, Pearson Education.
- 3 Christopher Cox, "An Introduction to LTE: LTE, LTE-Advanced, SAE and 4G Mobile Communications", Wiley publications.
- 4 Raj Kamal, "Mobile Computing", 2/e, Oxford University Press-New.

Reference Books:

- 1 Seppo Hamalainen, Henning Sanneck, Cinzia Sartori, "LTE Self-Organizing Networks (SON): Network Management Automation for Operational Efficiency", Wiley publications
- 2 Ashutosh Dutta, Henning Schulzrinne "Mobility Protocols and Handover Optimization: Design, Evaluation and Application", IEEE Press, Wiley Publication.
- 3 Michael Gregg, "Build your own security lab", Wiley India edition.
- 4 Dipankar Raychaudhuri, Mario Gerla, "Emerging Wireless Technologies and the Future Mobile Internet", Cambridge.
- 5 Andreas F. Molisch, "Wireless Communications", Second Edition, Wiley Publication.

Course Instructor: Dr. Ashok M. Kanthe