PVP-19

WIRELESS COMMUNICATIONS AND NETWORKS

Course Code	19EC4601A	**Year**	III	**Semester**	II
Course Category	PE - II	**Branch**	ECE	**Course Type**	Theory
Credits	3	**L-T-P**	3-0-0	**Prerequisites**	Nil
Continuous Internal Evaluation:	30	**Semester End Evaluation:**	70	**Total Marks:**	100

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Analyze the characteristics and applications of various technologies in WCN. (L4).
CO2	Analyse the Overview and Principles of Bluetooth, Cellular Wireless Networks (L4).
CO3	Evaluate the Fourth Generation Systems, LTE and mobile IP (L5).
CO4	Evaluate the different Technologies, architecture of Bluetooth and Cellular Wireless Networks and its applications (L5).
CO5	Analyse the different Multiple Access Techniques in Cellular Wireless Networks (L4)

Mapping of course outcomes with Program outcomes (CO/ PO/PSO Matrix)

Note: 1- Weak correlation 2-Medium correlation 3-Strong correlation

* - Average value indicates course correlation strength with mapped PO

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2		3				2			2	3
CO2	3	3	2	2		3				2			2	3
CO3	3	3	2	2		3				2			2	3
CO4	3	3	2	2		3				2			2	3
CO5	3	3	2	2		3				2			2	3
Average* (Rounded to nearest integer)	3	3	2	2		3				2			2	3

Syllabus		
Unit No.	**Contents**	**Mapped CO**
I	**Wireless LAN Technology:** IEEE 802Architecture, IEEE 802.11 Architecture and Services, IEEE 802.11 Medium Access Control, IEEE802.11 Physical Layer, Gigabit Wi-Fi, Other IEEE Standards, IEEE802.11 Wireless LAN Security	CO1 ,CO4
II	**Bluetooth and IEEE 802.15:** The Internet of Things, Bluetooth Motivation and Overview, Bluetooth Specifications, Bluetooth High Speed and Bluetooth Smart, IEEE 802.15, ZigBee 402	CO1,CO2 ,CO4
III	Cellular Wireless Networks: Principles of Cellular Networks, First-Generation Analog, Second-Generation TDMA, Second-Generation CDMA, Third-Generation Systems	CO1,CO2,CO4,CO5
IV	Fourth Generation Systems and LTE-Advanced: Purpose, Motivation, and Approach to 4G, LTE Architecture, Evolved Packet Core, LTE Resource Management, LTE Channel Structure and Protocols, LTE Radio Access Network, LTE-Advanced	CO1,CO3,CO4
V	Mobile Applications and Mobile IP: Mobile Application Platforms, Mobile App Development, Mobile Application Deployment, Mobile IP	CO1,CO3,CO4

Learning Resources
Text Books
1. Cory Beard, William Stallings, Wireless Communication Networks and Systems, Pearson Education, 2016
Reference Books
1. William Stallings, Wireless Communication and Networking, 2/e, Pearson Education, 2005. 2. Theodore S. Rappaport, Wireless Communications, Principles and Practice, 2/e, Prentice Hall of India, 2002 3. Kaveh Pahlaven, P. Krishna Murthy, Principles of Wireless Networks, 1/e, Pearson Education, 2002. 4. Kamilo Feher, Wireless Digital Communications, 1/e, Prentice Hall of India, 1999
e- Resources & other digital material
1.https://www.egr.msu.edu/~tongli/Introduction-WCN.pdf 2.https://youtu.be/Eu_mTZxPofI