

20EC2702A - TELECOMMUNICATIONS

Offering Branches	ECE		
Course Category:	Open Elective -IV	Credits:	3
Course Type:	Theory	Lecture-Tutorial-Practical:	3-0-0
Prerequisites:	-	Continuous Evaluation:	30
		Semester End Evaluation:	70
		Total Marks:	100

Course Outcomes

Upon successful completion of the course, the student will be able to:

CO1	Understand the basic anatomy of robots, actuators, end effectors, robot sensors, programming and applications.	K2
CO2	Understand the working principles of robot actuators, end effectors	K2
CO3	Apply robot programming skills	K3
CO4	Apply knowledge of robot sensors and their applications in industries	K3

Contribution of Course Outcomes towards achievement of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2													
CO2	3									2				
CO3		2								2			2	2
CO4		2								2			2	2
Avg.	3	2								2			2	2

1- Low

2-Medium

3-High

Course Content

UNIT-1	Telecommunication Systems: Evolution of Tele Communication Systems, Simple telephone communication, Telephones, Telephone System, Facsimile, Internet Telephony, Tele Communication Standards.	CO1 - CO4
UNIT-2	Cell Phone Technologies: Cellular Telephone Systems, A Cellular Industry Overview, 2G and 3G Digital Cell Phone Systems, Long Term Evolution and 4G Cellular Systems	CO1 - CO4
UNIT-3	Wireless Technologies: Wireless LAN, PANs and Bluetooth, ZigBee and Mesh Wireless Networks, WiMAX and Wireless Metropolitan-Area Networks- Infrared wireless- Ultra wideband wireless-Additional wireless applications	CO1 - CO4
UNIT-4	Optical Communication: Optical Principles, Optical Communication Systems, Fiber-Optic Cables, Optical Transmitters and Receivers.	CO1 - CO4
UNIT-5	Satellite Communication: Satellite Orbits, Satellite Communication Systems, Satellite Subsystems, Ground Stations, Satellite Applications, Global Navigation Satellite Systems.	CO1 - CO4

Learning Resources

Text Books	<ol style="list-style-type: none"> Louis E. Frenzel Jr., Principles of Electronic Communication Systems, 4/e, Mc Graw Hill Publications, McGraw-Hill Education, 2016. Telecommunication Switching Systems and Networks, by Thiagarajan Viswanathan, PHI
Reference Books	<ol style="list-style-type: none"> Telecommunication Switching and Networks. By P.Gnanasivam, New Age International. William C. Y. Lee, "Wireless & Cellular Telecommunications", McGraw-Hill Companies Inc, Third Edition, 2006.

	3. Wayne Tomasi, Advanced Electronic Communication Systems, 4/e, Pearson Education, 2013. 4. Dennis Roddy, Electronic Communications, 4/e, Pearson Education, 2003.
E-Resources & other digital material	-