

## TELECOMMUNICATIONS

<b>Course Code</b>	<b>20EC2702A</b>	<b>Year</b>	<b>IV</b>	<b>Semester</b>	<b>I</b>
<b>Course Category</b>	Open Elective-IV	<b>Branch</b>	ECE	<b>Course Type</b>	Theory
<b>Credits</b>	3	<b>L-T-P</b>	3-0-0	<b>Prerequisites</b>	--
<b>Continuous Internal Evaluation:</b>	30	<b>Semester End Evaluation:</b>	70	<b>Total Marks:</b>	100

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### Course Outcomes

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

<b>CO1</b>	Infer the basic knowledge of telecommunication system, regulations (L2).
<b>CO2</b>	Make use of revolutionary changes in Tele Communication technologies (L3).
<b>CO3</b>	Analyse different components of tele communication system. (L4).
<b>CO4</b>	Appraise the use of various components of telecommunication systems (L4).

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### 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	PSO 1	PSO 2
CO1	2													
CO2	3									2				
CO3		2								2			2	2
CO4		2								2			2	2

### Syllabus

Unit No.	Contents	Mapped CO
I	<b>Telecommunication Systems:</b> Evolution of Tele Communication Systems, Simple telephone communication, Telephones, Telephone System, Facsimile, Internet Telephony, Tele Communication Standards.	CO1 –CO4
II	<b>Cell Phone Technologies:</b> Cellular Telephone Systems, A Cellular Industry Overview, 2G and 3G Digital Cell Phone Systems, Long Term Evolution and 4G Cellular Systems	CO1 –CO4
III	<b>Wireless Technologies:</b> 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

IV	<b>Optical Communication:</b> Optical Principles, Optical Communication Systems, Fiber-Optic Cables, Optical Transmitters and Receivers.	CO1 -CO4
V	<b>Satellite Communication:</b> Satellite Orbits, Satellite Communication Systems, Satellite Subsystems, Ground Stations, Satellite Applications, Global Navigation Satellite Systems.	CO1 -CO4

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#### **Learning Resources**

##### **Text Books**

1. Louis E. Frenzel Jr., Principles of Electronic Communication Systems, 4/e, Mc Graw Hill Publications, McGraw-Hill Education, 2016.
2. Telecommunication Switching Systems and Networks, by Thiagarajan Viswanathan, PHI

##### **Reference Books**

1. Telecommunication Switching and Networks. By P.Gnanasivam, New Age International
2. William C. Y. Lee, “Wireless & Cellular Telecommunications”, McGraw-Hill Companies Inc, Third Edition, 2006.1.
2. Wayne Tomasi, Advanced Electronic Communication Systems, 4/e, Pearson Education, 2013.
3. Dennis Roddy, Electronic Communications, 4/e, Pearson Education, 2003.

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