

Program: Diploma in Electronics Engineering / Electronics and Communication Engineering	
Course Code: 5049C	Course Title: Telecommunication Networks Lab
Semester: 5	Credits: 1.5
Course Category: Program Elective	
Periods per week: 3 (L:0 T:0 P:3)	Periods per semester: 45

Course Objectives:

- To provide the students with the conceptual knowledge of telecom networks
- To imbibe the fundamental ideas of cellular communication, multiple access, and optical fiber communication

Course Prerequisites:

Topic	Course code	Course name	Semester
Basics of communication		Principles of communication	III

Course Outcomes:

On completion of the course, the student will be able to:

CO	Description	Duration (Hours)	Cognitive level
CO 1	Demonstrate the concepts of Telecommunication networks and cellular system using any Mobile Application or Web platform or using any basic telecom tools	6	Understanding
CO 2	Identify the different type OF Cable, OF cable Preparation and Splicing, OF Cable testing and Fault localization.	12	Applying
CO 3	Introduction to GIS- with Google earth and drafting software for design of FTTH Networks.	9	Applying
CO 4	FTTH network drafting with the drafting software	12	Applying
	Lab Exam	6	

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	-	-	-	-	-	-
CO2	3	-	-	-	-	-	-
CO3	3	3	-	-	-	-	-
CO4	3	-	-	3	-	-	-

3 – Strongly mapped

2 – Moderately mapped

1 – Weakly mapped

Course Outline

Module Outcomes	Name of Experiment	Duration (Hours)	Cognitive Level
CO1	Demonstrate the concepts of Telecommunication networks and cellular system using any Mobile Application or Web platform or using any basic telecom tools		
M1.01	Familiarize the telecom network using any web platform or by field visit to nearby Telephone exchange.	2	Understanding
M1.02	Using a mobile application learn different cellular parameters relevant for mobile signal reception.	2	Understanding
M1.03	Illustrate any basic telecom tool such as Calcucell / Path Loss calculator for providing basic concepts of cellular design.	2	Understanding
CO2	Identify the different type OF Cable, OF cable Preparation and Splicing, OF Cable testing and Fault localization.		
M2.01	Identify the different types of Optical fiber cables and applications	3	Applying
M2.02	Preparation of Optical fiber cables for Splicing	3	Applying
M2.03	Demonstrate and practice OF Cable splicing	3	Understanding
M2.04	Demonstrate the OF cable fault localization	3	Understanding

CO3	Introduction to GIS- with Google earth and drafting software for design of FTTH Networks		
M3.01	Make use of any GIS system such as google earth to identify the geographical location of your choice.	3	Applying
M3.02	Using any Drawing software such as AutoCAD familiarize the basic drawing features of the software	6	Applying
C04	FTTH network drafting with the drafting software		
M4.01	Familiar with FTTH network and identify the components of FTTH network by field visit / Web demonstration	3	Applying
M4.02	Perform FTTH drafting with drawing software	9	Applying
	Lab exam-2	3	

Text / Reference:

T/R	Book Title/Author
T ₁	Theodore S. Rappaport, 'Wireless Communication Principles and Practice', 2 nd Edn., Pearson Education India
R ₁	User manual of Drawing software and GIS
R ₂	William Stallings, 'Wireless Communications and Networks', 2 nd Edn., Pearson Education India
R ₃	Modern Optical Fiber Communication - First Edition - P Chakrabarti - McGraw Hill Education (India) Private Limited

Online Resources:

Sl No	Website Link
1	https://www.itu.int/
2	https://www.ftthcouncil.eu/