



**Mahavir Education Trust's**  
**SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE**  
Chembur, Mumbai - 400 088  
**UG Program in Electronics & Telecommunication Engineering**  
**Academic Year:- 2019-20**

**Semester - VIII**

Unique Course Number: 8.ECC801

Course Name: RF Design

Unique CO Number	Course Outcome (CO) Statement
8.ECC8011	Recall basics of filter and different filter types.
8.ECC8012	Understand impedance matching networks and passive RF filters.
8.ECC8013	Apply knowledge of amplifiers to design and appraise RF amplifiers.
8.ECC8014	Analyze Electromagnetic Interference and Electromagnetic Compatibility in RF circuits.
8.ECC8015	Evaluate different frequency synthesizers and phase noise.
8.ECC8016	Design and appraise one and two port microwave oscillator.

Unique Course Number: 8.ECC802

Course Name: Wireless Networks

Unique CO Number	Course Outcome (CO) Statement
8.ECC8021	Understand the fundamentals, architecture and standards of Wireless Networks.
8.ECC8022	Understand various Wireless Adhoc Network architectures and traffic related protocols.
8.ECC8023	Understand the basic architecture and working of IOT.
8.ECC8024	Apply the fundamentals of wireless network to describe the phases of planning and design of WMANs.
8.ECC8025	Classify different PAN and LAN topologies and technologies.
8.ECC8026	Illustrate the fundamentals and architecture WANs for its link budget analysis.



**Mahavir Education Trust's**  
**SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE**  
Chembur, Mumbai - 400 088  
**UG Program in Electronics & Telecommunication Engineering**  
**Academic Year:- 2019-20**

Unique Course Number: 6.ECCDLO8043

Course Name: Satellite communication

Unique CO Number	Course Outcome (CO) Statement
8.ECCDLO80431	Remember fundamentals of planetary motion and basic physics to understand the concepts satellite communications.
8.ECCDLO80432	Understand the concept of Satellite Communication system
8.ECCDLO80433	Apply the knowledge of satellite communication system and antenna system to understand the satellite links.
8.ECCDLO80434	Analyze overall performance of designed satellite system using different parameters.
8.ECCDLO80435	Analyze Space segment access and utilization for different multiple access techniques.
8.ECCDLO80436	Evaluate different satellite applications based on modern developments.

Unique Course Number: 8.ECCDLO8044 Course Name: Network Management in Telecommunication

Unique CO Number	Course Outcome (CO) Statement
8.ECCDLO 80441	To explain Communications Network Management Systems and their strengths and limitations.
8.ECCDLO 80442	To define the fundamental principles and technical underlying standards in Telecommunication, Networking and Information Technologies.
8.ECCDLO 80443	To describe the concepts and architecture behind standards based network management associated with SNMP and CMIP.
8.ECCDLO 80444	To apply basic of telecommunication, networking and information technologies and implement networked informative systems
8.ECCDLO 80445	To compare the way technological change and emerging technologies might alter the assumptions for the underlying architectures systems and management tools.



**Mahavir Education Trust's**  
**SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE**  
Chembur, Mumbai - 400 088  
**UG Program in Electronics & Telecommunication Engineering**  
**Academic Year:- 2019-20**

8.ECCDLO 80446	To analyze operation and management of modern data communications networks.
----------------	---

Unique Course Number: 9.ECCILO8029      Course Name: Environmental Management

Unique CO Number	Course Outcome (CO) Statement
9.ECCILO80291	Remember the environment related definitions ,issues
9.ECCILO80292	Understand the concept of environmental management ,Government planning ,Responsibility
9.ECCILO80293	Understand the global environmental concept
9.ECCILO80294	Understand ecosystem & interdependence
9.ECCILO80295	Analyze & understand ISO certification procedure
9.ECCILO80296	Apply your environment related legislations knowledge individually in your own organization

Unique Course Number: 8.ECCILO8028      Course Name: Digital Business Management

Unique CO Number	Course Outcome (CO) Statement
8.ECCILO80281	Understand basics and drivers of digital business.
8.ECCILO80282	Understand E commerce and it's applications.
8.ECCILO80283	Apply knowledge of digital business management to develop new applications for digital business
8.ECCILO80284	Analyze how digital business can be managed by using different security methods and protocols
8.ECCILO80285	Evaluate different E business strategies useful for digital business management
8.ECCILO80286	Creating different business plans for materializing E-business.



**Mahavir Education Trust's**  
**SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE**  
Chembur, Mumbai - 400 088  
**UG Program in Electronics & Telecommunication Engineering**  
**Academic Year:- 2019-20**

Unique Course Number: 8.ECL801

Course Name: RF Design Lab

Unique LO Number	Lab Outcome (LO) Statement
8.ECL8011	Recall calibration of network analyzer.
8.ECL8012	Understand working of passive RF filters.
8.ECL8013	Apply practical knowledge of different types of RF filters.
8.ECL8014	Apply practical knowledge of different types of RF filters.
8.ECL8015	Apply practical knowledge of different types of RF filters.
8.ECL8016	Design of passive matching networks.

Unique Lab Number: 8.ECL802

Lab Name: Wireless Networks Laboratory

Unique LO Number	Lab Outcome (LO) Statement
8.ECL8021	Understand the classification and architecture of various Wireless networks.
8.ECL8022	Analyze the various WPANs for energy efficiency.
8.ECL8023	Implement a WLAN network and illustrate the delay for different configurations.
8.ECL8024	Evaluate the link budget for various WANs.
8.ECL8025	Design and implement WSN and IOT networks.
8.ECL8026	Demonstrate knowledge and understanding of wireless networks in building real time applications.



**Mahavir Education Trust's**  
**SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE**  
Chembur, Mumbai - 400 088  
**UG Program in Electronics & Telecommunication Engineering**  
**Academic Year:- 2019-20**

Unique Course Number: 8.ECLDLO 8043      Course Name: Satellite Communication Laboratory

Unique CO Number	Course Outcome (CO) Statement
8.ECLDLO 80431	Understand the fundamentals of planetary motion and basic physics to understand the concepts satellite communications.
8.ECLDLO 80432	Understand Concept of launching of satellite.
8.ECLDLO 80433	Apply the knowledge of different types of orbits to calculate certain parameters.
8.ECLDLO 80434	Apply the knowledge of different types of orbits to calculate certain parameters.
8.ECLDLO 80435	Evaluate different types of satellite receivers.
8.ECLDLO 80436	Creating different results for various applications.

Unique Course Number: 8.ECLDLO8044      Course Name: Network Management in Telecommunication lab

Unique CO Number	Course Outcome (CO) Statement
8.ECLDLO 80441	To measure the network statistics and network parameters
8.ECLDLO 80442	To understand and analyze network status, monitoring and debugging tools
8.ECLDLO 80443	To analyze operation and management of modern data communications networks
8.ECLDLO 80444	To analyze the captured information of Ethernet packet
8.ECLDLO 80445	To design and configure Network management model
8.ECLDLO 80446	To understand different protocols and format for telecom network



**Mahavir Education Trust's**  
**SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE**  
Chembur, Mumbai - 400 088  
**UG Program in Electronics & Telecommunication Engineering**  
**Academic Year:- 2019-20**

Unique Course Number: 7.ECC807

Course Name: PROJECT-II

Unique CO Number	Course Outcome (CO) Statement
7.ECC8071	Debug the hardware/software in implementation of project and compare the coexisting contemporary techniques.
7.ECC8072	Test and Demonstrate the technical work of the project
7.ECC8073	Document the technical work of the project
7.ECC8074	Identify future scope of the project