# Department of Electronics and Telecommunication Engineering

## B.E. 7th Sem

**Course: Cryptography and Network Security** **Course Code: (7ETC01)**

At the end of Cryptography and Network Security course, students will be able:

**CO 1:** To understand basic cryptographic algorithms

**CO 2:** To attain the knowledge of message and web authentication and security issues.

**CO 3:** To identify information system requirements

**CO 4:** To understand the current legal issues towards information security

**CO 5:** To discuss the fundamental ideas of public-key cryptography

**CO 6:** To understand Intrusions and intrusion detection.

**Course: Digital Image and Video Processing** **Course Code: (7ETC02)**

At the end of Digital Image and Video Processing course, the student will be able:

**CO 1:** To comprehend fundamentals of digital image processing.

**CO 2:** To understand & apply knowledge of spatial domain and frequency domain filtering to digital images.

**CO 3:** To analysis of image segmentation and morphological techniques.

**CO 4:** To understand image degradation model and its restoration; analyze various image compression techniques based on redundancy features.

**CO 5:** To understand the Fundamentals of digital video processing.

**CO 6:** To comprehend motion estimation and video processing applications.

**Course: Project Management & Entrepreneurship** **Course Code: (7ETC03)**

At the end of Project Management & Entrepreneurship course, the student will be able:

**CO 1:** To understand basic concept of Project management.

**CO 2:** To attain the knowledge of cost estimation & working capital.

**CO 3:** To prepare Cost Sheets, balance sheets and Cash Flow statements.

**CO 4:** To understand the Entrepreneurial competencies & traits.

**CO 5:** To discuss the Management skills for Entrepreneurs.

**CO 6:** To understand Social Entrepreneurship.

**Course: Mobile Communication And Networks (PE-III) Course Code: (7ETC04)**

At the end of Mobile Communication and Networks course, the student will be able:

**CO 1:** To explain basic concept of Cellular systems and standards.

**CO 2:** To demonstrate knowledge of Signal propagation model.

**CO 3:** To compare different multiple access techniques in mobile communication.

**CO 4:** To summaries the concept of rake receiver.

**CO 5:** To demonstrate advance knowledge of MIMO.

**CO 6:** To compare different Mobile Communication Systems and standards.

**Course: Introduction To MEMS (PE-IV) Course Code: (7ETC05)**

At the end of Introduction to MEMS course, the students will be able:

**CO 1:** To describe the future trends in MEMS.

**CO 2:** To demonstrate skills to select appropriate material for MEMS devices.

**CO 3:** To interpret the mechanics of solids in MEMS.

**CO 4:** To understand fabrication process of MEMS.

**CO 5:** To select appropriate sensor and actuator in a given application.

**CO 6:** To describe the applications of MEMS.

# B.E. 8th Sem

**Course: Embedded System** **Course Code: (8ETC01)**

At the end of Embedded System course, the students will be able:

**CO 1:** To study the concept of Embedded Systems.

**CO 2:** To understand core of the Embedded System.

**CO 3:** To study architecture and inbuilt peripherals of AVR Microcontroller.

**CO 4:** To know microcontroller C Language Programming concepts.

**CO 5:** To recognize the importance task scheduling in real time embedded systems.

**CO 6:** To get acquainted with architecture & design of an Embedded System.

**Course: Microwave Theory and Techniques** **Course Code: (8ETC02)**

At the end of Microwave Theory and Techniques course, the students will be able:

**CO 1:** To understand operations of microwave active and passive devices.

**CO 2:** To understand operations of Semiconductor Microwave Devices.

**CO 3:** To describe characteristics of microwave propagation through waveguide and parallel micro strip line.

**CO 4:** To understand Operations of Microwave resonators.

**CO 5:** To use S-parameters for characterization of microwave devices.

**CO 6:** To measure various parameters of the microwave system.

**Course: Bio-Medical Electronics (PE-V)** **Course Code: (8ETC03)**

At the end of Bio-Medical Electronics course, the students will be able:

**CO 1:** To understand fundamentals of Medical Instrumentation, Biomedical Signals and Electrode.

**CO 2:** To identify and classify various Biomedical Transducers.

**CO 3:** To illustrate the significance of human signals and recording techniques.

**CO 4:** To familiarize with Modern medical imaging systems.

**CO 5:** To conceptualize requirements and importance of Patient Care and Monitoring and Safety.

**CO 6:** To describe the function and necessity of Physiological and electrotherapy equipment's.

**Course: 5G-6G Mobile Communication (PE-VI)** **Course Code: (8ETC04)**

At the end of 5G-6G Mobile Communication course, the students will be able:

**CO 1:** To illustrate the evolution of mobile communication leading to the introduction of 5G.

**CO 2:** To explain the key innovations in radio and network.

**CO 3:** To elaborate the standardization process and timeline for 5G

**CO 4:** To identify the spectrum requirements.

**CO 5:** To discuss key issues and challenges in 5G deployment.

**CO 6:** To understand the concept of 6G.