

**3<sup>rd</sup> Semester**

**1.**

**Subject Name:** Electronic Devices

**Subject Code:** BTEC-301-18

**Course Outcomes**

At the end of this course students will demonstrate the ability to:

1. Understand physics of semiconductors and behavior of charge carriers within semiconductors
  2. Understand the working of semiconductor diodes supported with mathematical explanation.
  3. Understand the working of BJT and MOSFET with their equivalent small signal models.
  4. Understand the chemical processes used in fabrication of integrated circuits.
- 

**2.**

**Subject Name:** Digital System Design

**Subject Code:** BTEC-302-18

**Course Outcomes**

At the end of this course student will demonstrate the ability to:

1. Apply concepts of Boolean algebra for handling logical expressions.
  2. Understand working and realization of combinational circuits.
  3. Understand working flip-flops and use them in designing of sequential circuits.
  4. Understand fundamental concepts of logic families and architectural of programmable devices.
  5. Use HDL programming tool for simulation of combinational & sequential circuits
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**3.**

**Subject Name:** Electromagnetic waves

**Subject Code:** BTEC-303-18

**Course Outcomes:**

At the end of this course student will demonstrate the ability to:

1. Understand characteristics & wave propagation through transmission lines
  2. Understand Maxwell's equations for electromagnetic waves
  3. Characterize uniform plane wave
  4. Calculate reflection and transmission of waves at media interface
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4.

**Subject Name:** Network Theory

**Subject Code:** BTEC-304-18

### Course Outcomes

At the end of this course student will be able to:

1. Analyze linear networks using network theorems.
  2. Use Laplace transform to analyze transient & steady state response of linear networks.
  3. Comprehend network parameters to analyze two port networks.
  4. Realize one port networks using Foster's and Cauer's methods.
- 

5.

**Subject Name:** Mathematics

**Subject Code:** BTAM-303-18

### Course Outcomes

The students will learn:

1. The mathematical tools needed in evaluating multiple integrals and their usage.
  2. The effective mathematical tools for the solutions of differential equations that model physical processes.
  3. The tools of differentiation and integration of functions of a complex variable that are used in various techniques dealing engineering problems.
  4. To introduce the solution methodologies for second order Partial Differential Equations with applications in engineering
  5. To provide an overview of probability and statistics to engineers
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**4<sup>th</sup> Semester**

**1.**

**Subject Name:** Analog Circuits

**Subject Code:** BTEC-401-18

**Course Outcomes**

At the end of this course student will be able to:

1. Understand the biasing of transistors and analyze BJT/FET amplifiers
  2. Analyze various rectifier and amplifier circuits
  3. Analyze sinusoidal and non-sinusoidal oscillators
  4. Understand various types of Power Amplifiers.
- 

**2.**

**Subject Name:** Microprocessors and Microcontrollers    **Subject Code:** BTEC-402-18

**Course Outcomes**

At the end of this course student will demonstrate the ability to:

1. Understand architecture & functionalities of different building block of 8085 microprocessor.
  2. Understand working of different building blocks of 8051 microcontroller.
  3. Comprehend and apply programming aspects of 8051 microcontroller.
  4. Interface & interact with different peripherals and devices.
- 

**3.**

**Subject Name:** Data Structures and Algorithms

**Subject Code:** BTCS-301-18

**Course Outcomes**

Student will be able to:

1. Understand operations like searching, insertion, deletion, traversing on linear Data Structures and to determine their computational complexities
  2. Understand operations like searching, insertion, deletion, traversing on various non linear Data Structures and to determine their computational complexities
  3. Write algorithms for Selection Sort, Bubble Sort, Insertion Sort, Quick Sort, Merge Sort, Heap Sort and compare their performance in term of Space and Time complexity.
  4. Apply appropriate Data Structure as per specific problem definition
- 

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**4.**

**Subject Name:** Signals & systems

**Subject Code:** BTEC-403-18

### **Course Outcomes**

At the end of this course students will demonstrate the ability to:

1. Mathematically characterize different types of signals and systems.
  2. Analyze the behavior of linear-shift invariant systems.
  3. Apply concepts of Fourier and Laplace Transforms to analyze continuous-time signals and systems.
  4. Investigate discrete-time signals and systems using Discrete-Time Fourier and Z-Transforms and simple Probability concepts.
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### **5<sup>th</sup> Semester**

**1.**

**Subject Name:** Digital signal processing

**Subject Code:** BTEC-502-18

### **Course Outcomes**

At the end of this course students will demonstrate the ability to

1. Represent signals mathematically in continuous and discrete time and frequency domain
  2. Get the response of an LSI system to different signals
  3. Design of different types of digital filters for various applications
- 

**2.**

**Subject Name:** Analog digital communication

**Subject Code:** BTEC-501-18

### **Course Outcomes**

At the end of this course students will demonstrate the ability to:

1. Analyze and compare different analog modulation schemes for their efficiency and bandwidth
  2. Analyze the behavior of a communication system in presence of noise
  3. Investigate pulsed modulation system and analyze their system performance
  4. Analyze different digital modulation schemes and can compute the bit error performance
- 

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3.

**Subject Name:** Linear Integrated circuits

**Subject Code:** BTEC-503-18

### Course Outcomes

At the end of this course students will demonstrate the ability to:

1. Understand Differential and Cascade Amplifiers
  2. Know the basics, working and characteristics of Op-Amps
  3. Investigate various applications of Op-amps
  4. Understand some specialized Op-Amps
  5. Interpretation of Data Sheets and their Applications thereof.
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4.

**Subject Name:** Control system

**Subject Code:** BTEC-504-18

### Course Outcomes

At the end of this course students will demonstrate the ability to

1. Characterize a system and find its study state behavior.
  2. Investigate stability of a system using different tests
  3. Design various controllers
  4. Solve linear, non-linear and optimal control problems
- 

5.

**Subject Name:** Random variable and stochastic processes. **Subject Code:** BTEC-905B-18

### Course Outcomes

At the end of this course students will demonstrate the ability to

1. Understand representation of random signals
  2. Investigate characteristics of random processes
  3. Make use of theorems related to random signals
  4. To understand propagation of random signals in LTI systems
- 

6.

**Subject Name:** Project Management. **Subject Code:** BTEC-505-18

### Course Outcomes

At the end of this course students will demonstrate the ability to

1. study the basic concepts of Project Management.
  2. learn about Project selection and organization.
  3. understand Project planning and scheduling.
  4. learn about Project Monitoring, control and performance.
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**6<sup>th</sup> Semester**

1.

**Subject Name:** Wireless Communication. **Subject Code:** BTEC-601-18

**Course Outcomes**

At the end of this course students will demonstrate the ability to:

- 1.Understand the basic elements of Cellular Radio Systems and its design
  - 2.Learn about the concepts Digital communication through fading multipath channels
  - 3.Understand various Multiple Access techniques for Wireless communication
  - 4.Know about the Wireless standards and systems
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2.

**Subject Name:** Computer Networks. **Subject Code:** BTCS-504-18

**Course Outcomes**

At the end of this course students will demonstrate the ability to:

- 1.Explain the functions of the different layer of the OSI Protocol
  - 2.Describe the function of each block of wide-area networks (WANs), local area networks (LANs) and Wireless LANs (WLANs)
  - 3.Develop the network programming for a given problem related TCP/IP protocol
  - 4.Learn about DNS DDNS, TELNET, EMAIL, File Transfer Protocol (FTP), WWW, HTTP, SNMP, Bluetooth, Firewalls using open source available software and tools.
- 

3.

**Subject Name:** Optical fiber and Communication. **Subject Code:** BTEC-602-18

**Course Outcomes**

At the end of this course students will demonstrate the ability to:

- 1.Understand the basics of Optical Communication and Optical fibres
  - 2.Learn about the Optical Transmitters and Receivers
  - 3.Explain the Light wave Architecture and systems
  - 4.Ability to explain the manufacturing, modulation and wave mixing in Optical Communication
- 

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4.

**Subject Name:** Microwave and antenna Engineering. **Subject Code:** BTEC-603-18

### Course Outcomes

At the end of this course students will demonstrate the ability to:

1. Understand the working and operation of various Microwave Tubes and Microwave Solid-state devices.
  2. Learn about various important Microwave Components and the Microwave measurements that can be carried out.
  3. Explain the basic concepts and types of Antennas and its regions.
  4. Describe the important concepts of Antenna Arrays and Antenna Aperture
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5.

**Subject Name:** Satellite Communication. **Subject Code:** BTEC-906B-18

### Course Outcomes

At the end of this course students will demonstrate the ability to:

1. Visualize the architecture of satellite systems as a means of high speed, high range communication system.
  2. State various aspects related to satellite systems such as orbital equations, sub-systems in a satellite, link budget, modulation and multiple access schemes.
  3. Understand the Phenomena in Satellite communication.
  4. Understand the general Link Design equation and the concepts related to it.
  5. Learn about VSAT system and its applications.
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## 7<sup>th</sup> Semester

1.

**Subject Name:** Antenna Radiating system. **Subject Code:** BTEC-907B-18

### Course Outcomes

At the end of the course, students will demonstrate the ability

- To understand the basic concepts of radiation.
  - To understand various antenna types.
  - To analyse the radiation pattern of antenna arrays.
  - To understand the concept of various wave propagation techniques
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2.

**Subject Name:** Mobile Communication Networks. **Subject Code:** BTEC-908B-18

### Course Outcomes

At the end of this course students will demonstrate the ability to:

1. Understand the working principles of the mobile communication systems.
  2. Understand the relation between the user features and underlying technology.
  3. Analyze mobile communication systems for improved performance
- 

3.

**Subject Name:** Information Theory and coding. **Subject Code:** BTEC-909B-18

### Course Outcomes

At the end of this course students will demonstrate the ability to:

1. Understand the concept of information and entropy
  2. Understand Shannon's theorem for coding
  3. Calculation of channel capacity
  4. Apply coding techniques
- 

4.

**Subject Name:** Indian Constitution. **Subject Code:** BTMC-101-18

### Course Outcomes

After the successful completion of the course students will be to understand the different dimensions of Indian Political System. They will be aware about their duties towards the fellow citizens. Students will be able to challenges of the democratic institutions and theoretical aspects of the state and its organs

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5.

**Subject Name:** Essence of Indian Tradition Knowledge. **Subject Code:** BTMC-102-18

### Course Outcomes

- Ability to understand connect up and explain basics of Indian traditional Knowledge in Modern scientific perspective.
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