K. C. E. S's College of Engineering & IT, Jalgaon

Department of E&TC Engineering

B. Tech in Electronics & Telecommunication Engineering

S.E. (SEM-I)

Sr. No.	Subject Code	Subject Name	Course Outcomes
1)	BTBSC301	**Engineering Mathematics-III**	On Successful completion of this course,the student will be able to:
			1. Solve higher order linear differential equation using appropriate techniques for modeling and analyzing electrical circuits.
			2.Solve problems related to Fourier transform, Laplace transform and applications to Communication systems and Signal processing.
			3.Obtain Interpolating polynomials, numerically differentiate and integrate functions, numerical solutions of differential equations using single step and multi-step iterative
			4.Perform vector differentiation and integration, analyze the vector fields and apply to Electromagnetic fields.
			5. Analyze conformal mappings, transformations and perform contour integration of complex functions in the study of electrostatics and signal processing.
2)	BTEXC302	**Analog Circuits**	On Successful completion of this course,the student will be able to:
			1. Describe the characteristics of IC and Op-Amp and identify the internal structure.
			2. Summarize and identify various manufacturing techniques.
			3. Derive and determine various performances based parameters and their significance for Op-Amp.
			4. Compare and verify parameters after exciting IC by any stated method.
			5. Analyze and identify the closed loop stability considerations and I/O limitations.

3)	BTEXC303	**Electronic Devices & Circuits**	On Successful completion of this course,the student will be able to:
			1.Relate and verify parameters after exciting devices by any stated method.
			2. Implement circuit and test the performance.
			3.Analyze small signal model of FET and MOSFET.
			4.Explain behavior of FET at low frequency.
			5. Design an adjustable voltage regulator circuits
4)	BTEXC304	**Network Analysis**	On Successful completion of this course,the student will be able to:
			1. Apply knowledge of mathematics to solve numerical based on network simplification and it will be used to analyze the same.
			2.Design passive filters and attenuators theoretically and practically. To apply knowledge for design of active filters as well as digital filters and even extend this to advance adaptive filters.
			3.Identify issues related to transmission of signals, analyze different RLC networks.
			4.Find technology recognition for the benefit of the society.
			5.Synthesize two port network functions
5)	BTEXC305	**Digital Logic Design**	On Successful completion of this course,the student will be able to:
			1.Use the basic logic gates and various reduction techniques of digital logic circuit in
			2.Design combinational and sequential circuits.
			3.Design and implement hardware circuit to test performance and application.
			4.Describe the architecture and use of VHDL for basic operations and Simulate using simulation software.
			5.Classify different semiconductor memories.
6)	BTHM3401	**Basic Human Rights**	On Successful completion of this course,the student will be able to:
			1.Simply put, human rights education is all learning that develops the knowledge, skills, and values of human rights.
			2.Strengthen the respect for human rights and fundamental freedoms.
			3.Enable all persons to participate effectively in a free society.
			4.Learn about human rights principles, such as the universality, indivisibility, and interdependence of human rights.
			5.Learn about regional, national, state, and local law that reinforces international human rights law.

S.E. (SEM-II)

Sr. No.	Subject Code	Subject Name	Course Outcomes
1)	BTEXC401	**Electric Machine**	On Successful completion of this course,the student will be able to:
			1.Formulate and then analyze the working of any electrical machine using mathematical model under loaded and unloaded conditions.
			2.Analyze the response of any electrical machine.
			3.Troubleshoot the operation of an electrical machine.
			4.Select a suitable measuring instrument for a given application.
			5. Estimate and correct deviations in measurements due to the influence of the instrument and due to the accuracy of the instrument.
2)	BTEXC402	**Analog Communication Engineering**	On Successful completion of this course,the student will be able to:
			1.Expalin and identify the fundamental concepts and various components of analog communication systems.
			2.Restate the concepts of modulation and demodulation techniques.
			3. Design circuits to generate modulated and demodulated wave.
			4. Predict with various issues related to analog communication such as modulation, demodulation, transmitters and receivers and noise performance.
			5.Interpret the concepts of modulation and demodulation techniques of angle modulation (frequency and phase).
3)	BTEXC403	**Microprocessor**	On Successful completion of this course,the student will be able to:
			1.Apply knowledge of engineering in designing different case studies.
			2. Interface devices to Microprocessor
			3. Use of hardware and software tools.
			4.Optimize the Program
			5.Develop interfacing to real world devices.

4)	BTEXC404	**Signals and Systems**	On Successful completion of this course,the student will be able to:
			1.Restate mathematical description and representation of continuous and discrete time signals and systems.
			2. Develop input output relationship for linear shift invariant system and explain the convolution operator for continuous and discrete time system.
			3.Explain and resolve the signals in frequency domain using Fourier series and Fourier transforms.
			4. Describe the limitations of Fourier transform and need for Laplace transform and develop the ability to analyze the system in s- domain.
			5. Explain the basic concept of probability, random variables & random signals and develop the ability to find correlation, CDF, PDF and probability of a given event.
5)	BTID405	**Product Design Engineering**	On Successful completion of this course,the student will be able to:
			1. Create simple mechanical or other designs
			2. Create design documents for knowledge sharing
			3. Manage own work to meet design requirements
			4. Work effectively with colleagues.
			5.Gain understanding of the process Industries.
6)	BTBSC406	**Numerical Methodsand Computer**	On Successful completion of this course,the student will be able to:
			1.Learn computational methods and errors.
			2.Solve algebraic and transcendental equations
			3.Explain the concept of interpolation, finite difference operators and their relations.
			4. Write computer programs for the numerical computational techniques.
			5.Learn Object Oriented Programming.

T.E. (SEM-I)

Sr. No.	Subject Code	Subject Name	Course Outcomes
1)	BTEXC501	**Electromagnetic Field Theory**	On Successful completion of this course,the student will be able to:
			1. Explain Maxwell's Equations.
			2.Characterize uniform plane wave
			3.Carryout impedance transformation on TL.
			4. Calculate reflection and transmission of waves at media interface
			5.Analysis of waveguide & Radiation Parameters of antenna
2)	BTEXC502	**Control SystemEngineering**	On Successful completion of this course,the student will be able to:
			1.Analyze closed & open loop systems , the modeling of LTI systems using transfer function and state-space representations.
			2.Explain time response analysis.
			3.Learn the concept of stability analysis.
			4.Explain frequency response analysis.
			5.Learn Controller design and state variable analysis.
3)	BTETC503	**Computer Architecture**	On Successful completion of this course,the student will be able to:
			1.Learn how computers work & its basic principles.
			2.Know processor organization
			3. Describe ALU design.
			4.Explain memory organization.
			5. Explain system organization & concept of parallel processing.
			On Successful completion of this course,the student will be able to:
4)	BTEXC504	**Digital signal processing**	1. Describe Fundamentals of DSP.
			2.Learn Discrete Fourier transform.
			3. Explain Z transform.
			4.Design IIR Filter.
			5. Design FIR Filter & learn Concept of Multirate DSP.

5)	BTEXC505	**Microcontroller and itsApplications**	On Successful completion of this course,the student will be able to: 1.Apply knowledge of engineering in designing different case studies. 2. Interface devices to Microcontroller 3. Use of hardware and software tools. 4.Optimize the Program 5.Develop interfacing to real world devices.
6)	BTEXPE506C	**Data Structure &Algorithms Using JavaProgramming**	On Successful completion of this course,the student will be able to: 1.Impart the basic concepts of data structures and algorithms. 2.Explain concepts about searching and sorting techniques 3.Describe how arrays, records, linked structures are represented in memory and use them in algorithms. 4.Describe basic concepts about stacks, queues, lists trees and graphs. 5.Write algorithms for solving problems with the help of fundamental data structures

T.E. (SEM-II)

Sr. No.	Subject Code	Subject Name	Course Outcomes
1)	BTETC601	**Antennas and Wave Propagation**	On Successful completion of this course,the student will be able to: 1. Formulate the wave equation and solve it for uniform plane wave. 2.Analyze the given wire antenna and its radiation characteristics. 3. Identify the suitable antenna for a given communication system. 4.Analyse Linear and Loop antennas. 5.Learn antenna array and its applications.
2)	BTETC602	**Computer Network &Cloud Computing**	On Successful completion of this course,the student will be able to: 1. Use Guided and Unguided Transmission media 2. Set local area networks 3. Explain the concepts of protocols & network interfaces. 4. Explain the wireless networking concepts. 5. Use Email, WWW.

3)	BTETC603	**Digital Image Processing**	On Successful completion of this course,the student will be able to:
			1.Learn Concept of Visual Information.
			2.Expalin Image Perception.
			3. Describe Image sampling and its transforms.
			4.Interpret image enhancement & restoration techniques.
			5.Describe various applications in digital image processing system.
4)	BTETPE604C	**Power Electronics**	On Successful completion of this course,the student will be able to:
			1.Review of Semiconductor Power Devices
			2. Design Controlled Rectifiers
			3.Describe Choppers & its types.
			4. Explain Switching Power Supplies
			5.Explain Block diagram and configuration of UPS.
5)	BTETOE605E	**Python Programming**	On Successful completion of this course,the student will be able to:
			1.Explain Basics of python programming.
			2.Describe Types, Operators and Expressions.
			3.Use of Data Structures Lists.
			4. Explain Default Arguments.
			5.Object-Oriented Programming OOP in Python& Brief Tour of the Standard Library
5)	BTHM606	**Employability & Skill Development**	On Successful completion of this course,the student will be able to:
			1.Have skills and preparedness for aptitude tests.
			2. Be equipped with essential communication skills.
			3. Master the presentation skill and be ready for facing interviews.
			4. Build team and lead it for problem solving.

B.E. (SEM-I)

Sr.	Subject Code	Subject Name	Course Outcomes
1)	BTETC701	**Digital Comunication**	On Successful completion of this course,the student will be able to:
			1. Learn Digital Transmission of Analog Signal.
			2.Expalin Digital Multiplexing,
			3. Describe the Signal space representation
			4. Explain Passband Digital Transmission.
			5,Analyze the digital communication system with spread spectrum modulation.
2)	BTETPE702	**Fibre Optic Communication**	On Successful completion of this course,the student will be able to:
			1. Describe the principles of fiber-optic communication, the components and the bandwidth advantages.
			2.Explain the properties of the optical fibers and optical components.
			3. Describe the operation of lasers, LEDs, and detectors.
			4. Analyze system performance of optical communication systems.
			5. Design optical networks and understand non-linear effects in optical fibers
3)	BTETPE703	**VLSI Design & Technology**	On Successful completion of this course,the student will be able to:
			1.Explain VHDL Modeling.
			2. Explain PLD Architectures and applications.
			3.Design analog & digital CMOS circuits for specified applications
			4. analyze analog CMOS design.
			5. Explain Testability & fault models.
4)	BTETPE704	**Mechatronics**	On Successful completion of this course,the student will be able to:
			1. Identifiy key elements of mechatronics system.
			2. Explain the concept of signal processing and use of interfacing systems such as ADC, DAC, digital I/O.
			3.Interface Sensors, Actuators using appropriate DAQ micro-controller.
			4. Restate time and requency domain analysis of system model (for control application).
			5. Explain PID control implementation on real time systems.

5)	BTHM705	**Financial Management**	On Successful completion of this course,the student will be able to:
			1.Describe basic terminology used in finance and accounts
			2. Prepare& appraise Financial Statements and evaluate a company in the light of different measurement systems.
			3. Analyze the risk and return of alternative sources of financing.
			4. Estimate cash flows from a project, including operating, net working capital, and capital spending.
			5.Estimate the required return on projects of differing risk.

B.E. (SEM-II)

Sr. No.		Subject Name	Course Outcomes
1)	BTETPE801A	**Introduction to Internet of Things**	On Successful completion of this course,the student will be able to:
			1.Descrribe the application areas of IOT ·
			2.Realize the revolution of Internet in Mobile Devices, Cloud & Sensor Networks ·
			3.Explain building blocks of Internet of Things and characteristics.
			4.Analysis and evaluate the data received through sensors in IOT
			5.Analysis and evaluate protocols used in IOT
2)	BTETPE801B	**Computer Vision and Image Processing**	On Successful completion of this course,the student will be able to:
			1.Explain the basic theory and algorithms that are widely used in digital image processing.
			2.Describe image analysis algorithms.
			3.Explain current applications in the field of Image Processing.
			4.Develop hands-on experience in using computers to process images.
			5.Design & Synthesize Color imageprocessing and its real world applications.