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Department of Applied Sciences

Course Outcomes for B.tech 1st Year (Common for all branches)	
After the completion of this course, students will be able to:	

Engineering Physics BTPH101-23:C101

Course Code	Course Outcomes
C101.1	relate the origin of bands inside the solids with the help of crystallography.
C101.2	discuss the working, properties and characterization techniques of semiconductor materials and devices.
C101.3	explain the properties of Magnetic materials and Nanomaterials along with its synthesis.
C101.4	develop the knowledge about the Maxwell equation and Electromagnetic spectrum.
C101.5	appraise the need for quantum mechanics, wave particle duality, uncertainty principle etc. and their applications.
C101.6	examine the laser system, optical fibre in industries, laboratories and in communication

Engineering Physics (Lab) BTPH102-23: C102*

Course Code	Course Outcomes
C102.1	demonstrate some of the theoretical concepts learnt in the theory courses.
C102.2	analyzing and applying precise measurements and handling sensitive equipment.
C102.3	propose the methods used for estimating and dealing with experimental uncertainties and systematic "errors."
C102.4	interpret conclusions from data and develop skills in experimental design
C102.5	create technical reports which communicate scientific information in a clear and concise manner.

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Mathematics -I BTAM101-23: C103

Course Code	Course Outcomes
C103.1	examine the convergence and divergence of sequences and series.
C103.2	apply the concept of Proper integral to find length , surface area and volume of revolution of the curves and to deal with discontinuous functions using Improper integral.
C103.3	use the concepts of partial differentiation to expand , estimate and find the extreme values of Multivariable Functions .
C103.4	evaluate area and volume of the surfaces using the concept of double and triple integration

Basic Electrical Engineering BTEE101-18: C104

Course Code	Course Outcomes
C104.1	categorize circuit elements, sources and mathematical analysis of DC circuits
C104.2	analyze the behavior of AC circuits.
C104.3	interpret the basic magnetic circuits and apply it to the working of electrical machines.
C104.4	classify the components of low voltage electrical installations.

Basic Electrical Engineering (Lab) BTEE102-18: C105*

Course Code	Course Outcomes
C105.1	make use of common electrical measuring instruments and interpret the fundamentals of electrical engineering.
C105.2	construct electrical connections and measure power, power factor using appropriate equipment.
C105.3	utilize the knowledge of basic magnetism to understand working of transformers.
C105.4	demonstrate operation of electrical machines, components and their ratings.

Engineering Graphics & Design BTME 101-21: C106

Course Code	Course Outcomes
C106.1	illustrate and prepare drawings.
C106.2	apply the principles of orthographic projections
C106.3	analyze and visualize of two and three dimensional planes and solids respectively.
C106.4	design and fabricate surfaces of different shapes.
C106.5	construct the objects in three dimensional appearances.

Chemistry-I BTCH101-23: C107

Course Code	Course Outcomes
C107.1	interpret concepts related to atomic and molecular structure at orbital level as well as categorize various intermolecular forces.
C107.2	infer about thermodynamic functions, chemical equilibria, water chemistry and corrosion.
C107.3	interpretation of data by using different spectroscopic techniques and its daily life applications.
C107.4	explain and distinguish different periodic properties of elements such as ionization energy, electron affinity, electronegativity, oxidation state and polarizability.
C107.5	classify major organic chemical reactions used for the synthesis of molecules as well as drugs.
C107.6	Illustrate three dimensional arrangements and isomers possible for a molecule and their properties.

Chemistry-I (Lab) BTCH102-18: C108*

Course Code	Course Outcomes
C108.1	rephrase interactions among molecules on the basis of surface tension, viscosity and Partition Coefficient.
C108.2	develop Polymer and drug molecule as well as analyze salt samples.
C108.3	estimate rate constants of chemical reactions as a function of time.

| C108.4 | discover acidity and chloride content present in water/oil sample. |
| C108.5 | evaluate adsorption isotherm and extent of adsorption using TLC |

Mathematics -II BTAM201-23: C109

Course Code	Course Outcomes
C109.1	determine the existence and uniqueness of the solution of system of linear equations using matrix algebra
C109.2	relate the concepts of Basis and Dimension of a vector space in linear transformation..
C109.3	utilize the acquired knowledge of eigen values and eigen vectors to diagonalize the matrix.
C109.4	solve ODE using different methods
C109.5	apply the concepts of ODE in RLC circuit, Deflection of beams, Simple harmonic motion, Simple population decay model, Orthogonal trajectories of a given family of curves.
C109.6	solve Partial Differential Equations using Lagrange's and Charpit's method

Programming for Problem Solving BTPS101-18: C110

Course Code	Course Outcomes
C110.1	demonstrate the knowledge and working of a computer with its parts.
C110.2	formulate simple algorithms and translate the algorithms to programs (in C language).
C110.3	evaluate conditional branching, iteration statements and recursion process.
C110.4	develop coding using arrays and implement various operations using 1D and 2D array (Matrix arithmetic operations).
C110.5	interpret the identified problems using functions and implementing searching and sorting algorithms on the given list as well as construct recursive functions.
C110.6	apply programming to design pointers, structures and file handling.

Programming for Problem Solving (Lab) BTPS102-18: C111*

Course Code	Course Outcomes
C111.1	evaluate given algorithms for the development of correct program.
C111.2	identify syntax errors and logical errors at compile and run time for correction.
C111.3	develop iterative as well as recursive programs.
C111.4	formulate data in arrays, strings and structures and manipulate them through a program.
C111.5	create pointers of different types and implement them in defining self-referential structures.
C111.6	design coding to create, read and write to and from simple text files.

Workshop/Manufacturing Practices BTMP101-18: C112*

Course Code	Course Outcomes
C112.1	interpret the different manufacturing processes which are commonly employed in the industry to fabricate components using different materials
C112.2	apply knowledge to construct different jobs with their own hands.
C112.3	interpret the dimensional accuracies and tolerances possible with different manufacturing processes.
C112.4	develop small devices of their interest.

English BTHU101-18: C113

Course Code	Course Outcomes
C113.1	improve their vocabulary to use different words and phrases in formulating meaningful sentences.
C113.2	identify and ascertain knowledge about the basic grammatical aspects and sentence structures for developing effective communication.
C113.3	interpret the given text and employ effective writing techniques for organizing and producing clear and coherent forms of expression.
C113.4	identify and interpret the literal and contextual meaning of the given text to Compose their responses accordingly.

C113.5	apply their point of view effectively for developing and generating their ideas in creative written form.
C113.6	compose varied forms of business correspondence and professional documents for the purpose of informing, recognizing, analyzing and official reporting.

English (Lab) BTHU102-18: C114*

Course Code	Course Outcomes
C114.1	build their listening and speaking skills by acquiring new forms of expressions for lucid communications.
C114.2	formulate structured conversation and put forth their point of view fluently on a variety of topics.
C114.3	overcome their inhibition and feel confident while demonstrating their language skills to make the transitions clear.
C114.4	interpret, analyze and use correct language in general, academic and professional environment.
C114.5	understand and function as per the expectations of the industry to prepare themselves for future interviews.
C114.6	design presentation on a given topic, learn to modulate their voice along with exhibiting the right body language.

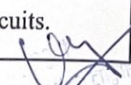### Mentoring & Professional Development MPD101-18: C115**

Course Code	Course Outcomes
C115.1	improve themselves by setting and working towards individual goals.
C115.2	demonstrate the importance of moral & ethical values that exemplify professionalism.
C115.3	develop physical fitness, wellness & sports to promote a healthy lifestyle.
C115.4	construct various analytical & training methods for their development.
C115.5	utilize physical activity as a tool to manage stress, pressure & work in life.

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Mentoring & Professional Development MPD201-18: C116**

Course Code	Course Outcomes
C116.1	improve themselves by setting and working towards individual goals.
C116.2	demonstrate the importance of moral & ethical values that exemplify professionalism.
C116.3	develop physical fitness, wellness & sports to promote a healthy lifestyle.
C116.4	construct various analytical & training methods for their development.
C116.5	utilize physical activity as a tool to manage stress, pressure & work in life.

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3rd Semester	Course Outcomes
Mathematics III(BTAMXXX18):C205	
C205.1	The mathematical tools needed in evaluating multiple integrals and their usage.
C205.2	The effective mathematical tools for the solutions of differential equations that model physical processes.
C205.3	The tools of differentiation and integration of functions of a complex variable that are used in various techniques dealing engineering problems.
C205.4	To introduce the solution methodologies for second order Partial Differential Equations with applications in engineering
C205.5	To provide an overview of probability and statistics to engineers
Electronic Devices(BTEC- 301 -18) :C201	
C201.1	Explain physics of semiconductors and behavior of charge carriers within semiconductors
C201.2	Demonstrate the working of semiconductor diodes supported with mathematical explanation.
C201.3	Compare the working of BJT and MOSFET with their equivalent small signal models.
C201.4	Summarise the chemical processes used in fabrication of integrated circuits.
Digital System Design(BTEC- 302 -18):C202	
C202.1	Apply concepts of Boolean algebra for handling logical expressions.
C202.2	Interpret working and realization of combinational circuits.
C202.3	Explain working flip-flops and use them in designing of sequential circuits.
C202.4	Summarize fundamental concepts of logic families and architectural of programmable devices.
C202.5	Use HDL programming tool for simulation of combinational & sequential circuits.

Electromagnetic Waves(BTEC- 303 -18):C203	
C203.1	Demonstrate characteristics & wave propagation through transmission lines
C203.2	Interpret Maxwell's equations for electromagnetic waves
C203.3	Characterize uniform plane wave and understanding the concept of wave Propagation in different types of mediums
C203.4	Calculate reflection and transmission of waves at media interface
C203.5	Propagation of wave in rectangular as well as parallel plane waveguide
Network Theory(BTEC- 304 -18):C204	
C204.1	Analyze linear networks using network theorems.
C204.2	Use Laplace transform to analyze transient & steady state response of linear networks.
C204.3	Comprehend network parameters to analyze two port networks.
C204.4	Realize one port networks using Foster's and Cauer's methods.
C204.5	Apply computer mathematical and simulation programs to solve various real life multi-disciplinary topics through circuit solution.
Electronic Devices Laboratory (BTEC-311-18):C206*	
C206*.1	Realize use of diodes in circuits with proper understanding to their working.
C206*.2	Demonstrate characteristics & working of BJT in different configurations.
C206*.3	Demonstrate characteristics & working of MOSFET in circuits.
C206*.4	Think and design working circuits based on diodes, BJTs and MOSFETs.

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Digital System Design Laboratory:BTEC-312-18:C207*	
C207*.1	Realize combinational circuits using logic gates.
C207*.2	Realize sequential circuits using logic gates.
C207*.3	Write & simulate VHDL programs for combinational & sequential circuits.
C207*.4	Think and design working projects using digital 74XX ICs.
Foundational Course in humanities :HSMC101-18:C209	
C209.1	This course is expected to relate philosophy to literature, culture, society and lived experience
C209.2	This course is expected to trained students in already available philosophical systems.
C209.3	This course is expected to bridge the gap between theory and practice.
C209.4	This course is expected to develop strong natural familiarity with humanities among students.
C209.5	This course is expected to enable students to have the knowledge of humanities in systematic manner.
4-Week Institutional Training:C208*	
C208*.1	Summarize basics of electronic fundamentals to enhance their skills for project design.
C208*.2	Identify different work areas of electronic Industry through e- journals, magazines etc.
C208*.3	Inculcate team work spirit and decision making through practical lab sessions during the training.
C208*.4	Inculcate awareness about diverse culture, Identities and society.
C208*.5	Design an application based minor project.
C208*.6	Enhance the presentation skills and report writing skills through project demonstration and viva- voce.

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Mentoring and Professional Development(BMPD-371-18) :C210****	
C210****.1	Empower themselves by setting and working towards individual goals.
C210****.2	Inculcate the importance of moral & ethical values that examplify professionalism.
C210****.3	Accesses physical fitness, wellness & sports to promote healthy lifestyle.
C210****.4	Apply various analytical & training methods for their development.
C210****.5	Utilize physical activity as a tool to manage stress, pressure & work in life.

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4th Semester	Course Outcomes
Analog Circuits(BTEC- 401 -18):C211
C211.1	Analyze the biasing of transistors and analyze BJT/FET amplifiers
C211.2	Analyze various rectifier and amplifier circuits
C211.3	Analyze sinusoidal and non-sinusoidal oscillators
C211.4	Explain various types of Power Amplifiers.
Microprocessors and Microcontrollers(BTEC- 402 -18):C212
C212.1	Describe architecture &functionalities of different building block of 8085 microprocessor.
C212.2	Learn working of different building blocks of 8051 microcontroller.
C212.3	Comprehend and apply programming aspects of 8051 microcontroller.
C212.4	Interface & interact with different peripherals and devices.
Data Structures & Algorithms(BTCS-301 -18):C213
C213.1	Classify operations like searching, insertion, deletion, traversing on linear Data Structures and to determine their computational complexities
C213.2	Classify operations like searching, insertion, deletion, traversing on various non linear Data Structures and to determine their computational complexities
C213.3	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.
C213.4	Apply appropriate Data Structure as per specific problem definition

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Signals and Systems (BTEC- 403 -18):C214	
C214.1	Mathematically characterize different types of signals and systems
C214.2	Analyze the behavior of linear-shift invariant systems.
C214.3	Apply concepts of Fourier and Laplace Transforms to analyze continuous-time signals and systems.
C214.4	Investigate discrete-time signals and systems using Discrete-Time Fourier and Z-Transforms.
C214.5	Analyze Probability concepts
Universal Human Values – 2: Understanding Harmony(HSMC122-18):C215	
C215.1	To ensure student's sustained happiness through identifying the essentials of human values and skills
C215.2	It yields a correct understanding between Self and Body to expedite happiness and harmony inside I.
C215.3	It helps students understand practically the importance of trust, mutually satisfying human behavior and enriching interaction with nature.
C215.4	Ability to develop appropriate technologies and management patterns to create harmony in personal life.
C215.5	Ability to develop holistic understanding via management models to create harmony in professional life.
Environmental Sciences(EVS-101-18):C216**	
C216**.1	Students will enable to understand environmental problems at local and national level through literature and general awareness.
C216**.2	The students will gain practical knowledge by visiting wildlife areas, environmental institutes and various personalities who have done practical work on various environmental Issues.
C216**.3	The students will apply interdisciplinary approach to understand key environmental issues and critically analyze them to explore the possibilities to mitigate these problems
C216**.4	Explain the dynamic processes and features of earth's interior and surface
C216**.5	Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world

AC Lab(BTEC-411-18):C217*	
C217*.1	Verify the characteristics of diodes/BJTs in circuits.
C217*.2	Analyze the working of various types of Oscillators and verify their Frequency response.
C217*.3	Investigate the working of Power amplifiers with their characteristics.
C217*.4	Analyze performance of analog circuits based on based on diodes, BJTs and MOSFETs .
C217*.5	Think and design of working circuits.
MPMC Lab(BTEC-412-18):C218*	
C218*.1	Write programs for common arithmetic operations with 8-bit/16-bit numbers using 8085.
C218*.2	Write programs for transfer, sort block of data with 8085 processor.
C218*.3	Write programs for controlling stepper and DC motors using Microprocessor(s).
C218*.4	Write programs to generate waveforms and interface ADC and DAC using of 8051 Microcontroller.
C218*.5	Write a Program to interface Peripherals like LED,LCD circuits with 8051 microcontroller
Mentoring and Professional Development(BMPD-371-18) :C210***	
C210****.1	Empower themselves by setting and working towards individual goals.
C210****.2	Inculcate the importance of moral & ethical values that examplify professionalism.
C210****.3	Accesses physical fitness, wellness & sports to promote healthy lifestyle.
C210****.4	Apply various analytical & training methods for their development.
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5th Semester	Course Outcomes
Analog and Digital Communication(BTEC-501-18):C301	
C301.1	Analyze and compare different analog modulation schemes for their efficiency and bandwidth
C301.2	Analyze and compare different digital schemes for transmitting analog data
C301.3	Analyze the behavior of a communication system in presence of noise
C301.4	Investigate pulsed modulation system and analyze their system performance
C301.5	Analyze different digital modulation schemes and can compute the bit error performance
Digital Signal Processing (BTEC-502-18):C302	
C302.1	Analyze the different types of signals and systems.
C302.2	Familiarize with the fundamental concepts of convolution and sampling.
C302.3	Interpret the concepts of Z transform, DFT and FFT techniques.
C302.4	Classify designing and realization concepts of FIR filters.
C302.5	Classify designing and realization concepts of IIR filters.
C302.6	Demonstrate various DSP processors along with their architectures.
Linear Integrated Circuits(BTEC-503-18):C303	
C303.1	Compare Differential and Cascade Amplifiers
C303.2	Know the basics, working and characteristics of Op-Amps
C303.3	Investigate various applications of Op-amps
C303.4	Classify some specialized Op-Amps
C303.5	Interpretation of Data Sheets and their Applications thereof.

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Control Systems (BTEC-504-18):C304	
C304.1	Explain the fundamental concepts of control system and obtain models of dynamic systems in transfer function form.
C304.2	Classify the common control schemes.
C304.3	Analyze the system response and stability in both time-domain and frequency domain.
C304.4	Learn the features of different types of compensators and to design compensators.
C304.5	Analyze the system response and stability of systems represented in state space form.
C304.6	Acquire the knowledge of optimal and non-linear control.
Programming in JAVA(BTEC-905D-18):C305	
C305.1	Apply the concepts and basics of JAVA
C305.2	Demonstrate the knowledge of operators and control statements
C305.3	Ability to learn about Inheritance, Interface, Applets.
C305.4	Learn about JAVA database connectivity
Project management (BTEC-505-18):C306	
C306.1	Study the basic concepts of project management.
C306.2	Learn about project selection and organization.
C306.3	Understand project planning and scheduling.
C306.4	Learn about project monitoring, control and performance.
C306.5	To implement various project management techniques for time bound completion of project.

Analog and Digital Communication Laboratory(BTEC-511-18):C307*	
C307*.1	study and verify the characteristics and output waveforms of AM, FM, PCM
C307*.2	study and compare noise in AM and FM systems
C307*.3	investigate the output responses of PAM, PCM, PSK, FSK, MSK.
Digital Signal Processing Laboratory(BTEC-512-18):C308*	
C308*.1	Develop standard sequences and perform mathematical operations on them.
C308*.2	Examine the frequency and impulse response of discrete time LTI system.
C308*.3	Interpret discrete time signal using DFT and FFT.
C308*.4	Design of IIR and FIR Digital filters.
C308*.5	Demonstrate DSP Processor based applications.
Linear Integrated Laboratory(BTEC-513-18):C309*	
C309*.1	study and investigate the configurations of Differential amplifiers.
C309*.2	measure the performance parameters of am OP-Amp.
C309*.3	Use Op-Amps for various applications.
C309*.4	Develop programs to design various filters.
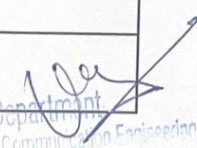
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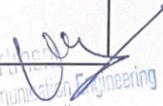| 4-Week Industrial Training(BTEC-521-18):C310*	
C310*.1	Summarize basics of electronic fundamentals to enhance their skills for project design.
C310*.2	Identify different work areas of electronic Industry through e- journals, magazines etc.
C310*.3	Inculcate team work spirit and decision making through practical lab sessions during the training.
C310*.4	Inculcate awareness about diverse culture, Identites and society.
C310*.5	Design an application based minor project.
C310*.6	Enhance the presentation skills and report writing skills through project demonstration and viva- voce.
Programming in JAVA lab(BTEC-10X-18):C311****	
C311.1	Demonstrate the basics of object oriented JAVA.
C311.2	Apply the concept of classes,JAVA,JDK components and develop simple JAVA programs.
C311.3	Demonstrate the knowledge of operators and control statements.
C311.4	Develop simple java programs using inheritance and exceptional handling.
Mentoring and Professional Development(BMPD-371-18) :C312****	
C312***.1	Empower themselves by setting and working towards individual goals.
C312****.2	Inculcate the importance of moral & ethical values that examplify professionalism.
C312****.3	Accesses physical fitness, wellness & sports to promote healthy lifestyle.
C312****.4	Apply various analytical & training methods for their development.
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6th Semester	Course Outcomes
	PE-I C Sharp(BTEC-906D-18):C313
C313.1	Write various applications using C# Language in the .NET Framework.
C313.2	Develop distributed applications using .NET Framework.
C313.3	Create mobile applications using .NET compact Framework.
C313.4	Learn other concepts of .NET approach towards problem solving
	Operating System(BTCS-402-1-18) :C314
C314.1	Explain basic operating system concepts such as overall architecture, system calls, user mode and kernel mode;
C314.2	Distinguish concepts related to processes, threads, process scheduling, race conditions and critical sections;
C314.3	Analyze and apply CPU scheduling algorithms, deadlock detection and prevention algorithms;
C314.4	Examine and categorize various memory management techniques like caching, paging, segmentation, virtual memory, and thrashing
C314.5	Design and implement file management system
C314.6	Appraise high-level operating systems concepts such as file systems, disk-scheduling algorithms and various file systems.
	PE-I C Sharp LaB(BTEC-906D-18):C315****
C315.1	Examine C# syntax and semantics and be fluent in the use of C# flow control and functions.
C315.2	Demonstrate proficiency in handling Strings and File Systems.
C315.3	Create, run and manipulate C# Programs using core data structures like class , objects and use Regular Expressions.
C315.4	Interpret the concepts of Object-Oriented Programming as used in C#.

Wireless communication System(BTEC-601-18):C316	
C316.1	Learn the basic elements of Cellular Radio Systems and its design
C316.2	Learn about the concepts Digital communication through fading multipath channels
C316.3	Interpret various Multiple Access techniques for Wireless communication
C316.4	Know about the Wireless standards and systems
Computer Network (BTCS-504-18):C317	
C317.1	Explain the functions of the different layer of the OSI Protocol
C317.2	Describe the function of each block o f wide - area networks (WANs), local area networks (LANs) and Wireless LANs (WLANs)
C317.3	Develop the network programming for a given problem related TCP/IP protocol
C317.4	Learn about DNSD DNS, TELNET, EMAIL, File Transfer Protocol, WWW,HTTP,SNMP, Bluetooth using open source available tools and software
Optical Fibre Communication (BTEC-602-18):C318	
C318.1	Analyze the basics of Optical Communication and Optical fibres
C318.2	Learn about the Optical Transmitters and Receivers
C318.3	Explain the Light wave Architecture and systems
C318.4	Ability to explain the manufacturing, modulation and wave mixing in Optical Communication

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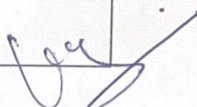| Microwave and Antenna Engineering(BTEC-603-18):C319	
C319.1	Explain the working and operation of various Microwave Tubes and Microwave Solid-state devices.
C319.2	Learn about various important Microwave Components and the Microwave measurements that can be carried out.
C319.3	Explain the basic concepts and types of Antennas and its regions.
C319.4	Describe the important concepts of Antenna Arrays and Antenna Aperture.
Optical Fibres and Communication Lab (BTEC-611-18):C320*	
C320*.1	To perform experiments based on optical communication in order to understand in depth concepts of latest communication system.
C320*.2	To study various types of optical sources and light detectors
C320*.3	To know methods of slicing and connecting techniques of optical fibres
C320*.4	To study different types of losses in optical fibres.
C320*.5	To Study of multiplexing technique
C320*.6	To know applications of optical fibres.
Microwave and Antenna lab(BTEC-612-18):C321*	
C321*.1	Learn about general Microwave components and Microwave bench
C321*.2	Measure common parameters related to Microwave Oscillator(s).
C321*.3	Determine frequency and wavelength of waveguides.
C321*.4	Measure and plot radiation patterns of various types of Antennas
C321*.5	Determine the coupling factor and Isolation of couplers

Project-I (BTEC-631-18):C322*	
C322*.1	Identify the needs of the society and undertake projects for the benefit of society.
C322*.2	Form a team and apply engineering and basic scienctific concepts to design Quality Projects.
C322*.3	Design Projects taking into consideration recent technological advances.
C322*.4	Analyze and develop core skills that give students the ability to successfully complete Hardware and Software related problems during project development.
C322*.5	Produce a cost effective project as per market demand.
C322*.6	Prepare an effective report that includes a detialed theory of project development from problem formulation to implementation part.
Mentoring and Professional Development(BMPD-371-18):C312****	
C312***.1	Empower themselves by setting and working towards individual goals.
C312****.2	Inculcate the importance of moral & ethical values that examplify professionalism.
C312****.3	Accesses physical fitness, wellness & sports to promote healthy lifestyle.
C312****.4	Apply various analytical & training methods for their development.
C312****.5	Utilize physical activity as a tool to manage stress, pressure & work in life.

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7th Semester	Course Outcomes
ARTIFICIAL INTELLEGENCE (BTEC-908A-18):C411	
C411.1	Learn the difference between optimal reasoning Vs human like reasoning
C411.2	Classify the notions of state space representation, exhaustive search, heuristic search along with the time and space complexities
C411.3	Learn different knowledge representation techniques
C411.4	Learn the concept of Expert System and Fuzzy logic
C411.5	Interpret the applications of AI namely, Game Playing, Theorem Proving, Machine Learning and Natural Language Processing
COA(BTCS-501-18):C412	
C412.1	Understand functional block diagram of microprocessor;
C412.2	Apply instruction set for Writing assembly language programs
C412.3	Design a memory module and analyze its operation by interfacing with the CPU
C412.4	Classify hardwired and microprogrammed control units;
C412.5	Understand the concept of pipelining and its performance metrics.
Soft Computing (BTEC-908D-18):C413	
C413.1	Learn the concepts of Soft Computing and Algorithms involved there-in.
C413.2	Demonstrate Genetic Algorithms with its operators and applications.
C413.3	Learn about the Neural Network models and its applications.
C413.4	Describe the Fuzzy systems and Neuro Fuzzy Modeling.
C413.5	Learn Swarm Intelligence techniques for optimization .

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DBMS(BTES-401-18):C414	
C414.1	Write relational algebra expression for the query and optimize the developed expression.
C414.2	Design the database using ER method and normalisation.
C414.3	Construct the SQL queries for open source and commercialDBMS-MYSQL,ORACLE and DB2.
C414.4	Determine the trasaction atomicity,consistency,isolation and durability.
C414.5	Implement the isolation property,including locking,time stamping based on concurrency control and serializability of scheduling.
Indian Constitution (BTMC-101-18):C415**	
C415.1	Enable the student to explain the importance of constitution.
C415.2	Demonstrate philosophy of fundamental rights and duties.
C415.3	Compare the structure of executive, legislature and judiciary of Union government, controller and auditor general of India and election commission of India.
C415.4	Compare the structure of executive, legislature, judiciary and autonomous nature of constitutional bodies of State like high court, Local Self Government etc.
C415.5	Classify the various challenges and amendments of the Constitutional Powers.
Essence of Indian Traditional Knowledge (BTMC-102-18):C416**	
C416.1	Ability to explain the basics of Indian traditional Knowledge in Modern scientific perspective.
C416.2	Ability to relate the basics of Yoga in Modern scientific perspective.
C416.3	Ability to explain the basics Holistic Health Care in Modern scientific perspective.
C416.4	Ability to relate the basics of Indian traditional Knowledge in Modern scientific perspective Focuses on Indian philosophical traditions. Focuses on Indian philosophical traditions.
C416.5	Ability to summarize Indian linguistic Tradition, and Indian artistic tradition.

Python Lab (BTEC-12X-18):C417****	
C417****.1	Examine Python syntax and semantics and be fluent in the use of Python flow control and functions.
C417****.2	Demonstrate proficiency in handling Strings and File Systems
C417****.3	Create, run and manipulate Python Programs using core data structures like Lists, Dictionaries and use Regular Expressions.
C417****.4	Interpret the concepts of Object-Oriented Programming as used in Python.
C417****.5	Implement exemplary applications related to Network Programming, Web Services and Databases in Python.
Project-II (BTEC-731-18):C418*	
C418*.1	Identify the needs of the society and undertake projects for the benefit of society.
C418*.2	Form a team and apply engineering and basic scienctific concepts to design Quality Projects.
C418*.3	Design Projects taking into consideration recent technological advances.
C418*.4	Analyze and develop core skills that give students the ability to successfully complete Hardware and Software related problems during project development.
C418*.5	Produce a cost effective project as per market demand.
C418*.6	Prepare an effective report that includes a detailed theory of project development from problem formulation to implementation part.
Python Programming (BTEC-907D-18):C419	
C419.1	Read and write simple Python programs.
C419.2	Develop Python programs with conditionals and loops.
C419.3	Define Python functions and to use Python data structures–lists, tuples, dictionaries.
C419.4	Perform input/output operations with files in Python.
C419.5	Execute Searching, sorting and merging in Python.

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Mentoring and Professional Development (BMPD-371-18) :C420****	
C420****.1	Empower themselves by setting and working towards individual goals.
C420****.2	Inculcate the importance of moral & ethical values that examplify professionalism.
C420****.3	Accesses physical fitness, wellness & sports to promote healthy lifestyle.
C420****.4	Apply various analytical & training methods for their development.
C420****.5	Utilize physical activity as a tool to manage stress, pressure & work in life.

8th Semester	Course Outcomes
Software/Industry Oriented Training:C410*	
C410*.1	Explore different professional engineering practices.
C410*.2	Get acquainted with the industry and various professional tools and languages employed.
C410*.3	Learn industrial etiquette like punctuality and target oriented working where deadlines have to be met, even by working for stretched hours.
C410*.4	Develop themselves therefore require less training later, when students are hired and are assumed to be able to handle more responsibilities.
C410*.5	Learn specialized skills of the field; also learn soft skills like communication and interpersonal skills along with computer proficiency and team work, resulting in overall personality development of the student.
C410*.6	Analyze their concepts that student learned in the classroom to fill the gap between industry and academics.

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