

Branch ECE

After the completion of this course, students will be able to:

Semiconductor and Optoelectronics Physics BTPH105-18 (SOP): E101 Year of study: 2018-19

NBA Course Code	Course Outcomes
E101.1	understand and explain the fundamental principles and properties of electronic materials and semiconductors
E101.2	understand and describe the interaction of light with semiconductors.
E101.3	understand and describe the impact of solid-state device capabilities and limitations on electronic circuit performance.
E101.4	understand the design, fabrication, characterization techniques, and measurements of engineered semiconductor materials.
E101.5	learn the basics of the optoelectronic devices, LEDs, semiconductor lasers, and photo detectors.

Semiconductor and Optoelectronics Physics (Lab) BTPH115-18 (SOP LAB): E102 Year of study: 2018-19

NBA Course Code	Course Outcomes
E102.1	verify some of the theoretical concepts learnt in the theory courses.
E102.2	trained in carrying out precise measurements and handling sensitive equipment.
E102.3	introduced to the methods used for estimating and dealing with experimental uncertainties and systematic "errors."
E102.4	learn to draw conclusions from data and develop skills in experimental design.
E102.5	write a technical report which communicates scientific information in a clear and concise manner.

Mathematics-I BTAM101-18 (M-I): E103 Year of study: 2018-19

NBA Course Code	Course Outcomes
E103.1	analyze various problems by using fundamental theorems.
E103.2	apply differential and integral calculus to evaluate definite, improper integrals and its applications.
E103.3	apply the knowledge of partial differentiation to calculate the extreme values of functions of several variables.
E103.4	apply tests on different series to check their convergence and divergence.
E103.5	solve the linear equations by applying the concepts of rank, eigen values, eigen vectors.

Basic Electrical Engineering BTEE101-18 (BEE): E104 Year of study: 2018-19

NBA Course Code	Course Outcomes
E104.1	differentiate circuits based on their composition, terminology and their mathematical analysis.
E104.2	analyze the behavior of electrical circuits based on alternating currents as their power supply; solve AC circuits and their mathematical analysis.
E104.3	understand the basic magnetic circuit; construction as well as working principle of transformer.
E104.4	study the working principles of various electrical machines such as three- phase induction motor, single- phase induction motor, dc motor and synchronous generator.
E104.5	understand about power converters and various types of modulation techniques.
E104.6	understand the components of low voltage electrical installations.

Basic Electrical Engineering (Lab) BTEE102-18 (BEE LAB): E105 Year of study: 2018-19	
NBA Course Code	Course Outcomes
E105.1	get an exposure to common electrical components and their ratings.
E105.2	make electrical connections by wires of appropriate ratings.
E105.3	determine the characteristics of AC and DC circuits, study their behavior with changes in key parameters.
E105.4	study magnetism and the basic characteristics of transformers.
E105.5	understand the working and directional control of rotating machines.
E105.6	understand the working of power electronic converters.

Engineering Graphics & Design BTME101-18 (EGD): E106 Year of study: 2018-19	
NBA Course Code	Course Outcomes
E106.1	understand the concepts of Engineering Drawing & Standard Practice to be adopted in Engineering Drawing.
E106.2	understand the projection of Points, Lines, Planes and Solids.
E106.3	understand & draw the section of solids, intersection of surfaces and development of surfaces and learn about their physical significance.
E106.4	understand the working knowledge of orthographic and isometric projections.
E106.5	understand the engineering graphics standards and computer-aided geometric design.
E106.6	apply the learned concepts of engineering Drawing in visual representation of their Engineering Ideas.

Chemistry-I BTCH101-18 (c): E107 Year of study: 2018-19	
NBA Course Code	Course Outcomes
E107.1	learn about concepts related to atomic and molecular structures as well as different types of intermolecular forces.
E107.2	Justify various thermodynamic functions and chemical equilibria equations.
E107.3	rationalize different spectroscopic techniques and their basic applications.
E107.4	study about various periodic properties of elements like ionization energy, electron affinity and electronegativity.
E107.5	understand the basic concepts related to major chemical reactions that are used in synthesis of commonly used drug molecules.
E107.6	learn about fundamental concepts of stereochemistry.

Chemistry-I (Lab) BTCH102-18 (C LAB): E108 Year of study: 2018-19	
NBA Course Code	Course Outcomes
E108.1	understand and Find out interactions among molecules on the basis of surface tension and viscosity.
E108.2	understand and Synthesize small drug molecule and a salt sample.
E108.3	understand and Estimate rate constants of reactions from concentration of reactants and products as a function of time.
E108.4	understand and Measure system properties such as conductance of solutions and redox potentials.
E108.5	understand and Calculate how the adsorbed amount depends on the equilibrium concentration of a solution.
E108.6	understand and Remove hardness present in water due to salts of calcium and magnesium.

Mathematics-II BTAM202-18 (M-II): E109 Year of study: 2018-19	
NBA Course Code	Course Outcomes
E109.1	solve different types of ordinary differential equations .
E109.2	solve different types of Partial differential equations .
E109.3	analyze the several errors and approximations in numerical methods.
E109.4	apply numerical techniques to solve various mathematical equations.

Programming for Problem Solving BTPS101-18 (PPS): E110 Year of study: 2018-19	
NBA Course Code	Course Outcomes
E110.1	understand basics of computer and its parts.
E110.2	formulate simple algorithms and translate the algorithms to programs (in C language).
E110.3	implement conditional branching, iteration and recursion.
E110.4	convert a problem into functions by using searching and sorting techniques on the given list.
E110.5	use arrays, pointers and structures to formulate algorithms and programs.
E110.6	apply programming to solve matrix addition and multiplication problems.

Programming for Problem Solving (Lab) BTPS102-18 (PPS LAB): E111 Year of study: 2018-19	
NBA Course Code	Course Outcomes
E111.1	translate given algorithms to a working and correct program
E111.2	correct syntax errors and logical errors at compile and run time respectively.
E111.3	write iterative as well as recursive programs
E111.4	represent data in arrays, strings and structures and manipulate them through a program.
E111.5	declare pointers of different types and use them in defining self referential structures.
E111.6	create, read and write to and from simple text files.

Workshop/Manufacturing Practices BTMP101-18 (MP): E112 Year of study: 2018-19	
NBA Course Code	Course Outcomes
E112.1	understand the basics of various machining processes.
E112.2	understand the basics of casting, forging and welding process.
E112.3	develop the development of sheet metal products.
E112.4	know about the exercise involving marking, cutting, fitting and trapping practice.
E112.5	make different wooden Joints.
E112.6	understand the basics of plastic moulding and glass cutting.

English BTHU101-18 (E): E113 Year of study: 2018-19	
NBA Course Code	Course Outcomes
E113.1	improve their vocabulary to use different words and phrases in drafting meaningful sentences.
E113.2	acquire knowledge about the basic grammatical aspects and sentence structures for communicating effectively.
E113.3	understand the given text and utilizing effective writing techniques for producing clear and coherent forms of expression.
E113.4	understand the literal and contextual meaning of the given text and to write their responses accordingly.
E113.5	put forward their point of view effectively while expressing their ideas in creative written form.
E113.6	draft varied forms of business correspondence and professional documents for the purpose of informing, analyzing and official reporting.

English (Lab) BTHU102-18 (E LAB): E114 Year of study: 2018-19	
NBA Course Code	Course Outcomes
E114.1	improve their listening and speaking skills by acquiring new forms of expressions for lucid communication.
E114.2	produce structured conversation and put forth their point of view fluently on a variety of topics.
E114.3	overcome their inhibition and feel confident while using the language to make their transitions clear.
E114.4	use correct language in general, academic and professional environment.
E114.5	understand the expectations of the industry and prepare themselves for future interviews.
E114.6	give presentation on a given topic, learn to modulate their voice along with exhibiting the right body language.