



**Department of Applied Sciences**  
**Course Outcomes**

S.No.	Name of the Course	CO Code	Course Outcomes
1	<b>Mechanics of Solids</b>	<b>BTPH101-18</b>	1. Understand the vector mechanics for a classical system.
			2. Identify various types of forces in nature, frames of references, and conservation laws.
			3. Know the simple harmonic, damped, and forced simple harmonic oscillator for a mechanical system.
			4. Analyze the planar rigid body dynamics for a mechanical system.
			5. Apply the knowledge obtained in this course to the related problems.
2	<b>Mechanics of Solids Lab</b>	<b>BTPH111-18</b>	1. Able to understand the concepts learned in the mechanics of solids.
			2. Learning the skills needed to verify some of the concepts of theory courses.
			3. Trained in carrying out precise measurements and handling sensitive equipment.
			4. Able to understand the principles of error analysis and develop skills in experimental design.
3	<b>Electromagnetism</b>	<b>BTPH103-18</b>	1. Specify the constitutive relationships for fields and understand their important.s
			2. Describe the static and dynamic electric and magnetic fields for technologically important structures.
			3. Measure the voltage induced by time varying magnetic flux.
			4. Acquire the knowledge of Maxwell equation and electromagnetic field theory and propagation and reception of electro-magnetic wave systems.
			5. Have a solid foundation in engineering fundamentals required to solve problems and also to pursue higher studies.
4	<b>Electromagnetism Lab</b>	<b>BTPH113-18</b>	1. Able to verify some of the theoretical concepts learnt in the theory courses.
			2. Trained in carrying out precise measurements and handling sensitive equipment.
			3. Understand the methods used for estimating and dealing with experimental uncertainties and systematic "errors."
			4. Learn to draw conclusions from data and develop skills in experimental design.
5	<b>Semiconductor Physics</b>	<b>BTPH104-18</b>	1. Understand and explain the fundamental principles and properties of electronic materials and semiconductors
			2. Understand and describe the interaction of light with semiconductors in terms of fermigolden rule.



12	<b>MATHEMATICS II (Ordinary Differential Equations and Complex Variable)</b>	<b>BTAM203-18</b>	1. To develop understanding about the effective mathematical tools for the solutions of differential equations that model physical processes..
			2. To develop understanding about the tools of differentiation and integration of functions of a complex variable that are used in various techniques dealing engineering problems
			3. Understand the issues involved in production and use of concrete
			4. Design of concrete mixes as per BIS specifications.
			5. Understand various testing methods for concrete and their applicability.
			6. Knowledge of special type of non-conventional concretes.
13	<b>Mathematics Paper-I (Calculus &amp; Linear Algebra)</b>	<b>BTAM104-18</b>	1. To apply differential and integral calculus to notions of curvature and to improper integrals.
			2. Apart from various applications, will learn about the Beta and Gamma functions.
			3. To develop understanding about the essential tools of matrices and linear algebra including linear transformations, eigenvalues, diagonalization and orthogonalization.
14	<b>Mathematics Paper-II (Probability &amp; Statistics)</b>	<b>BTAM204-18</b>	1. To develop the knowledge of probability and random variables and various discrete and continuous probability distributions and their properties.
			2 To develop the knowledge of statistics including measures of central tendency, correlation and regression and the statistical methods of studying data samples.
15	<b>Basic Electrical Engineering</b>	<b>BTEE-101-18</b>	1. Have the knowledge of DC circuits, AC Circuits, basic magnetic circuits, working principles of electrical machines, and components of low voltage electrical installations
			2. Be able to analyze of DC circuits, AC Circuits
			3. Understand the basic magnetic circuits and apply it to the working of electrical machines
			4. Be introduced to types of wiring, batteries, and LT switchgear.
16	<b>Basic Electrical Engineering Laboratory</b>	<b>BTEE-102-18</b>	1. The ability to use common electrical measuring instruments and understand the fundamentals of electrical engineering.
			2. The ability to make electrical connections, and measure power, power factor using appropriate equipments.
			3. Have the knowledge of electrical machines, components and their ratings.
			4. Understand the operation of transformers and electrical machines.
17	<b>Engineering Graphics &amp; Design (Theory &amp; Lab.) Science</b>	<b>BTME101-18</b>	1. Introduction to engineering design
			2. Exposure to the visual aspects of engineering design
			3. Exposure to engineering graphics standards
			4. Exposure to solid modeling
			5. Exposure to computer-aided geometric design
			6. Exposure to creating working drawings Exposure to engg. communication
18	<b>Chemistry-I (Concepts in chemistry for engineering)</b>	<b>BTCH101-18</b>	1. To Analyse microscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces
			2. To Rationalise bulk properties and processes using thermodynamic considerations.
			3. To Distinguish the ranges of the electromagnetic spectrum used for exciting different molecular energy levels in various spectroscopic techniques
			4. To Rationalise periodic properties such as ionization potential, electronegativity, oxidation states and electronegativity.



			5. To List major chemical reactions that are used in the synthesis of molecules.
19	<b>Chemistry-I (Lab.)</b>	<b>BTCH102-18</b>	1. Estimate rate constants of reactions from concentration of reactants/products as a function of time 2. Measure molecular/system properties such as surface tension, viscosity, conductance of solutions, redox potentials, chloride content of water, etc 3. Synthesize a small drug molecule and analyse a salt sample
20	<b>Programming for Problem Solving</b>	<b>BTPS101-18</b>	1. To formulate simple algorithms for arithmetic and logical problems. 2. To test and execute the programs and correct syntax and logical errors. 3. To translate the algorithms to programs (in C language). 4. To apply programming to solve simple numerical method problems, namely root finding of function, differentiation of function and simple integration. 5. To implement conditional branching, iteration and recursion. 6. To apply programming to solve matrix addition and multiplication problems and searching and sorting problems. 7. To decompose a problem into functions and synthesize a complete program using divide and conquer approach. 8. To use arrays, pointers and structures to formulate algorithms and programs.
21	<b>Programming for Problem Solving Lab</b>	<b>BTPS102-18</b>	1. To formulate the algorithms for simple problems 2. To translate given algorithms to a working and correct program 3. To be able to create, read and write to and from simple text files. 4. To be able to declare pointers of different types and use them in defining self referential structures 5. To be able to represent data in arrays, strings and structures and manipulate them through a program 6. To be able to identify and correct logical errors encountered at run time To be able to write iterative as well as recursive programs 7. To be able to correct syntax errors as reported by the compilers
22	<b>Workshop/Manufacturing Practices (Theory &amp; Lab.)</b>	<b>BTMP101-18</b>	1. To develop knowledge about the different manufacturing processes which are commonly employed in the industry. 2. To fabricate components using different materials. 3. To develop practical knowledge of the dimensional accuracies and dimensional tolerances possible with different manufacturing processes.
23	<b>English</b>	<b>BTHU-102-18</b>	1. To help the students become the independent users of English language. 2. Students will be able to understand spoken and written English language, particularly the language of their chosen technical field. 3. Students will be able to converse fluently. 4. Students will acquire basic proficiency in reading & listening, comprehension, writing and speaking skills. 5. To produce on their own clear and coherent texts.
24	<b>English Laboratory</b>	<b>BTHU-102-18</b>	1. Studento help the students become the independent users of English language. 2. To acquire basic proficiency in listening and speaking skills. 3. Students will be able to produce on their own clear and coherent texts. 4. Students will be able to converse fluently able to converse fluently 5. Students will be able to understand spoken English language, particularly the language of their chosen technical field.



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25	<b>Mentoring and Professional Development</b>	<b>BMPD-101-18</b>	1. To develop the Overall Personality.
			2. To develop the Aptitude (Technical and General)efficiency.
			3. To develop the General Awareness .
			4. Enhance Communication Skills
			5. To develop the knowledge of Presentation Skills
			6. To develop the awareness regarding the Current Affairs and GK.

**Approved by HOD**

**(Applied Sciences)**