Shree Santkrupa Institute of Engineering and Technology

Department of Basic Sciences And Humanities

Academic Year: 2022-23 (As per A-Group)

Semester: I

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTBS101	Engineering Mathematics- I	3	1	-	4
2	BTBS102/BTBS202	Engineering Physics	3	1	-	4
3	BTES103/BTES203	Engineering Graphics	2	-	-	2
4	BTHM104/BTHM2	Communication Skills	2	-	-	2
5	BTES105/BTES205	Energy and Environment Engineering	-	-	-	2
6	BTES106/BTES206	Basic Civil and Mechanical Engineering	2	-	-	Audit
7	BTBS107L/BTBS20	Engineering Physics Lab	-	-	2	1
8	BTES108L/BTES20	Engineering Graphics Lab	-	-	4	2
9	BTHM109L/BTHM	Communication Skills Lab.	-	-	2	1

Semester: II

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTBS201	Engineering Mathematics-II	3	1	-	4
2	BTBS202/BTBS102	Engineering Chemistry	3	1	-	4
3	BTES203/BTES103	Engineering Mechanics	2	1	-	3
4	BTES204/BTES104	Computer Programming in C	3	-	-	3
5	BTES205/BTES105	Workshop Practices	-	-	4	2
6	BTES206/BTES106	Basic Electrical and Electronics Engineering	2	-	-	Audit
7	BTBS207L/BTBS10	Engineering Chemistry Lab	-	-	2	1
8	BTES208L/BTES10	Engineering Mechanics Lab	-	-	2	1
9	BTES210S	Seminar	-	-	2	1

Course Outcomes

Semster : I
Course Name	**Engineering Mathematics- I**

Course Code	BTBS101
Course Outcome No / **Course Outcome Statement**	**By the end of the course, student will be able to:**
CO 1	Apply the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problem
CO 2	Demonstrate the concept partial derivatives and their applications to Maxima/ Minima , series expansion of multi valued functions.
CO 3	Compute Jacobian of functions of several variables and their applications to engineering problems
CO 4	Identify and sketch curves in various coordinate system.
CO 5	Evaluate multiple integrals and their applications to area and volume.

Semster : I	
Course Name	**Engineering Physics**
Course Code	**BTBS102/BTBS202**
Course Outcome No / **Course Outcome Statement**	**By the end of the course, student will be able to:**
CO 1	Understand types of oscillations and their implications, ultrasonics and dielectric to role of Shock waves in various fields in engineering
CO 2	Explain interference & polarization of light, working principle of lasers & fiber optics
CO 3	Apply & demonstrate principle of electron optics, nuclear physics and quantum mechanics.
CO 4	Identify types of crystals & crystal planes using miller indices,experimental approach.
CO 5	Analyze structures, relations, parameters and properties of magnetic, superconducting and semiconducting materials

Semster : I	
Course Name	**Engineering Graphics**
Course Code	**BTES103/BTES203**
Course Outcome No / **Course Outcome Statement**	**By the end of the course, student will be able to:**
CO 1	Use of drawing instruments effectively for drawing and dimensioning
CO 2	Use drawing codes,symbols and conventions as per IS-SP46 in engineering drawing
CO 3	Explain conventions and methods of engineering drawing.
CO 4	Apply concept of projections of points,lines,planes,solids and section of solids
CO 5	Construct isometric and orthographic views of given objects.

Semster : I	
Course Name	**Communication Skills**
Course Code	**BTHM104/BTHM204**
Course Outcome No / **Course Outcome Statement**	**By the end of the course, student will be able to:**
CO 1	Remember concept of communication skill and its process.
CO 2	Explain verbal and non-verbal communication.
CO 3	Overcome mother tongue influence and demonstrate neutral accent while expressing English.

CO 4	Recognize types of tense and common errors.
CO 5	Develop writing context with presentations, public speaking, report writing and business correspondence.

Semster : I		
Course Name	**Energy and Environment Engineering**	
Course Code	**BTES105/BTES205**	
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to:**
CO 1	Demonstrate the Conventional power plants, their advantages and disadvantages.	
CO 2	Demonstrate the Renewable power plants, its advantages and disadvantages.	
CO 3	Energy conservation: Scope for energy conservation and its benefits Energy Conservation Principle.	
CO 4	Determine the sources, effects, and control measures of air pollution.	
CO 5	Determine the sources, effects, and control measures of water, noise, and soil pollution.	

Semster : I		
Course Name	**Basic Civil and Mechanical Engineering**	
Course Code	**BTES106/BTES206**	
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to:**
CO 1	Determine various Civil Engineering materials & choose suitable materials among various options.	
CO 2	Determine and apply principles of surveying to solve engineering problems.	
CO 3	Discover various Civil Engineering structural components.	
CO 4	Demonstrate the types and working principles of power plants.	
CO 5	Demonstrate the various types of IC engines and working principles.	

Semster : I		
Course Name	**Engineering Physics Lab**	
Course Code	**BTBS107L/BTBS207L**	
Course Outcome No	**Course Outcome Statement**	**By the end of the course, student will be able to:**
CO 1	Remember and understand fundamentals of optics, quantum mechanics and advanced materials.	
CO 2	Apply different methods and characterization techniques to solve problems.	
CO 3	Analyze structures, relations, parameters and properties.	
CO 4	Determine the width of narrow slits, spacing between close rulings using lasers and appreciate the accuracy in measurements.	
CO 5	Determine the band gap, hall coefficient and mobility for a semiconductor.	

Semster : I	
Course Name	**Engineering Graphics Lab**
Course Code	**BTES108L/BTES208L**

Course Outcome No	Course Outcome Statement	By the end of the course, student will be able to:
CO 1		Use of drawing instruments effectively for drawing and dimensioning
CO 2		Use drawing codes,symbols and conventions as per IS-SP46 in engineering drawing
CO 3		Explain conventions and methods of engineering drawing.
CO 4		Apply concept of projections of points,lines,planes,solids and section of solids
CO 5		Construct isometric and orthographic views of given objects.

	Semster : I	
Course Name	Communication Skills Lab.	
Course Code	BTHM109L/BTHM209L	

Course Outcome No	Course Outcome Statement	By the end of the course, student will be able to:
CO 1		Introduce phonemic symbols.
CO 2		Articulate sound in English with proper manner.
CO 3		Introduce ownself and friends.
CO 4		Participate in debate and group discussion.
CO 5		Acquire presentation and interview skills.

	Semster : II	
Course Name	Engineering Mathematics- II	
Course Code	BTBS201	

Course Outcome No	Course Outcome Statement	By the end of the course, students will be able to:
CO 1		Discuss the need and use of complex variables to find roots ,to separate complex quantities and to establish relation between circular and hyperbolic functions.
CO 2		Solve first and higher order differential equations and apply them as a mathematical modeling in electric and mechanical systems.
CO 3		Determine Fourier series representation of periodic functions over different intervals.
CO 4		Demonstrate the concept of vector differentiation and interpret the physical and geometrical meaning of gradient, divergence &curl in various engineering areas.
CO 5		Utilize the principles of vector integration to transform line integral to surface integral , surface to volume integral using Green's, Stoke's and Gauss divergence theorems.

	Semster : II	
Course Name	Engineering Chemistry	
Course Code	BTBS202/BTBS102	

Course Outcome No	Course Outcome Statement	By the end of the course, the students will be able to:
CO 1		Define the importance of water in industrial & domestic use.
CO 2		Explain basic terms of phase rule.
CO 3		Apply knowledge for the manufacture & testing of the metals.
CO 4		Define fuels & explain its properties

CO 5	make use of electrochemistry in industry.	
Semster : II		
Course Name	**Engineering Mechanics**	
Course Code	**BTES203/BTES103**	
Course Outcome No	**Course Outcome Statement**	**By the end of the course, student will be able to:**
CO 1	Illustrate free body diagram and calculate the reactions necessary to ensure static equilibrium.	
CO 2	Discuss the effect of friction in static and dynamic conditions.	
CO 3	Analyse and solve different problems of kinematics	
CO 4	Analyse and solve different problems of kinetics	
CO 5	Analyse and solve different problems of work,power & energy	
Semster : II		
Course Name	**Computer Programming in C**	
Course Code	**BTES204/BTES104**	
Course Outcome No	**Course Outcome Statement**	**By the end of the course, student will be able to:**
CO 1	Explain the process of programming, algorithms and flowchart	
CO 2	Illustrate the data types, Operators and Expressions in C programming	
CO 3	Develop program Control Flow using conditional statement and functions	
CO 4	Develop C Program using arrays	
CO 5	Develop C Program using structures and pointers.	
Semster : II		
Course Name	**Workshop Practices**	
Course Code	**BTES205/BTES105L**	
Course Outcome No	**Course Outcome Statement**	**By the end of the course, student will be able to:**
CO 1	Define basic tools used at engineering workshop.	
CO 2	Recognize tools, work material and measuring instruments useful for fitting, welding, carpentry and plumbing practice	
CO 3	Handle tools and instruments and use them to prepare simple models	
CO 4	Realizethe engineering drawing and use them to prepare models	
CO 5	Know the importance of machine in mechanical engineering	
Semster : II		
Course Name	**Basic Electrical and Electronics Engineering**	
Course Code	**BTES206/BTES106**	
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to:**

CO 1	Define basic principles of electrical engineering.
CO 2	Identify measuring instruments and measurement of electrical quantities
CO 3	Define basic concept of Diodes and Circuits
CO 4	Explain the Semiconductor Devices and Applications

Semster : II	
Course Name	**Computer Programming Lab**
Course Code	**BTES207L/BTES107L**

Course Outcome No	Course Outcome Statement	By the end of the course, student will be able to:
CO 1		Explain the execution of programs written in C language
CO 2		Develop the C program using given algorithm
CO 3		Develop the C program using various operators
CO 4		Design programs with conditional Operators, loops, function, arrays, structure etc
CO 5		Design programs that perform different mathematical operations.

Semster : II	
Course Name	**Engineering Chemistry Lab**
Course Code	**BTBS208L/BTBS108L**

Course Outcome No	Course Outcome Statement	By the end of the course, the students will be able to:
CO 1		Develop the importance of water in industrial and domestic uses.
CO 2		Find the content present in water.
CO 3		Explain viscocity of liquids.
CO 4		Make use of conductometric titrations.
CO 5		Identity contents present in coal.

Semster : II	
Course Name	**Engineering Mechanics Lab**
Course Code	**BTES209L/BTES109L**

Course Outcome No	Course Outcome Statement	By the end of the course, student will be able to:
CO 1		Construct free body diagram and calculate the reactions necessary to ensure static equilibrium.
CO 2		Study the effect of friction in static and dynamic conditions.
CO 3		Analyse and solve different problems of kinematics
CO 4		Analyse and solve different problems of kinetics
CO 5		Analyse and solve different problems of work,power & energy

Semster : II

Course Name	Seminar	
Course Code	BTES210S	
Course Outcome No	Course Outcome Statement	By the end of the course, student will be able to:
CO 1	State the exact title of the seminar	
CO 2	Explain the motivation for selecting the seminar topic and its scope	
CO 3	Search pertinent literature and information on the topic	
CO 4	Critically review the literature and information collected	
CO 5	Demonstrate effective written and verbal communication	