

BTBS102_02	Apply basic principles of oscillation, Ultrasonic, Optics laser, fibre optics, nuclear	BTBS102_02	2		1	1					1			2
BTBS102_03	Understand crystal structure, magnetic and super conducting properties of materials.	BTBS102_03	2		1	1					1			2
Class	F. Y. B. Tech Sem I and II	Course Name and Course Code	BTES103 Engineering Graphics											
Year of Study	2020-21, 2021-22, 2022-23,2023-24		PO 1	PO 2	PO 3	PO4	PO 5	PO 6	PO 7	PO8	PO 9	PO 10	PO 11	PO1 2
Course Name and Course	BTES103/203 Engineering Graphics													
BTES103_01	Understand basic concepts of engineering drawing and apply the concept of	BTES103_01	3	2	1									
BTES103_02	Understand and apply concept of projection to solve problems on projection of point and	BTES103_02	3											
BTES103_03	Understand and apply concept of projection to solve problems on projection of plane, Solid	BTES103_03	3											
Class	F. Y. B. Tech Sem I and II													
Year of Study	2020-21, 2021-22, 2022-23,2023-24	BTHM104 Communication Skills												
Course Name and Course	BTHM104/BTBS204 Communication Skills	Course Name and	PO 1	PO 2	PO 3	PO4	PO 5	PO6	PO 7	PO8	PO9	PO 10	PO 11	PO1 2
BTHM104_01	Demonstrate LSRW skills and develop communicative competence in professional	BTHM104_0 1									2	3		2
BTHM104_02	Apply phonetics in spoken English.	BTHM104_0 2									2	3		2
BTHM104_03	Make use of grammar correctly with accepted tone and style in technical and business	BTHM104_0 3									2	3		2

Class	F. Y. B. Tech Sem I and II													
Year of Study	2020-21, 2021-22, 2022-23,2023-24	BTES105 Energy and Environment Engineering												
Course Name and Course	BTES105/205 BTBS205 Energy and Environment Engineering	Course Name and	PO 1	PO2	PO 3	PO4	PO 5	PO6	PO 7	PO8	PO9	PO1 0	PO 11	PO1 2
BTES105_01	Identify and aware about Conventional and Renewable energy sources	BTES105_0 1			1				3					
BTES105_02	Know the principle of Energy conservation to implement the energy conservation techniques.	BTES105_0 2			1	3			2					
BTES105_03	Identify and control various sources of air, water and noise pollution and their effects.	BTES105_0 3			1			2	3					
Class	F. Y. B. Tech Sem I and II													
Year of Study	2020-21, 2021-22, 2022-23,2023-24	BTES106 Basic Civil and Mechanical Engineering												
Course Name and Course	BTES106/206 Basic Civil and Mechanical Engineering	Course Name and	PO 1	PO2	PO 3	PO4	PO 5	PO6	PO 7	PO8	PO9	PO1 0	PO 11	PO1 2
BTES106_01	To understand principals of surveying in actual practice to prepare plan or map	BTES106_01	3					1						
BTES106_02	To understand concepts of building planning, building component and uses of building material	BTES106_02	3						1					
BTES106_03	Define and explain basic terms of thermodynamics, laws of thermodynamics and working of IC Engine & different power plants.	BTES106_03	3	0	0	0								
BTES106_04	Define and explain basic terms related to machine, mechanism, and engg. Materials and working of machine tools.	BTES106_04	3	3	3	3								

Class	F. Y. B. Tech Sem I and II		BTBS201 Engineering Mathematics-II											
Year of Study	2020-21, 2021-22, 2022-23,2023-24	Course Name and Course Code	PO 1	PO2	PO 3	PO4	PO 5	PO6	PO 7	PO8	PO9	PO1 0	PO 11	PO1 2
Course Name and Course Code	BTBS201 Engineering Mathematics-II													
BTBS201_01	Discuss the need and use of complex variables to find roots ,to separate complex quantities and to establish relation between circular and hyperbolic functions	BTBS201_01	3	2										
BTBS201_02	Solve first and higher order differential equations and apply them as a mathematical modelling in electric and mechanical systems.	BTBS201_02	3	2										
BTBS201_03	Illustrate Fourier series representation of periodic functions over different intervals and understand the concept of vector differentiation and apply the principles of vector integration to transform line integral to surface integral , surface to volume integral &vice versa using Green's , Stokes and Gauss divergence theorems.	BTBS201_03	3	2										
Year of Study	2020-21, 2021-22, 2022-23,2023-24	BTBS202 Engineering Chemistry												
Course Name and Course Code	BTBS 102/202 Engineering Chemistry	Course Name and Course Code	PO 1	PO2	PO 3	PO4	PO 5	PO6	PO 7	PO8	PO9	PO1 0	PO 11	PO1 2

BTBS202_01	To acquire and apply basic knowledge of Chemistry in technical fields.	BTBS202_01	3	2										
BTBS202_02	Bring adaptability to new developments in Engineering Chemistry and to acquire the skills	BTBS202_02	2	2	2									
BTBS202_03	To integrate pure Chemistry principles and fundamentals with Engineering Applications.	BTBS202_03	1	1										
Class	F. Y. B. Tech Sem I and II													
Year of Study	2020-21, 2021-22, 2022-23,2023-24	BTES206 Basic Electrical and Electronics Engineering												
Course Name and Course Code	BTES106 /206 Basic Electrical and Electronics Engineering	Course Name and Course Code	PO 1	PO2	PO 3	PO4	PO 5	PO6	PO 7	PO8	PO9	PO1 0	PO 11	PO1 2
BTES206_01	Define basic concepts of electrical engineering.	BTES206_01	3	1										
BTES206_02	Explain devices used for energy storage and protection of electrical system	BTES206_02	1	2										
BTES206_03	Relate electrical and electronics domains and Define the operation of diodes and transistors.	BTES206_03		3										
BTES206_04	Explain digital electronics. Illustrate simple combinational and sequential logic circuits.	BTES206_04	2	2										
Class	F. Y. B. Tech Sem I and II													
Year of Study	2020-21, 2021-22, 2022-23,2023-24	BTES203 Engineering Mechanics												

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Class	F. Y. B. Tech Sem I and II													
Year of Study	2020-21, 2021-22, 2022-23,2023-24	CP1204, BTES104/204 “Computer Programming in C”												
Course Name and Course Code	CP1204, BTES104/204 “Computer Programming in C”	Course Name and Course	PO 1	PO 2	PO 3	PO4	PO 5	PO6	PO 7	PO8	PO9	PO1 0	PO 11	PO1 2
BTES204_01	Understand C programming environment.	BTES204_01	3	2							3			
BTES204_02	Understand problem solving skills or techniques.	BTES204_02	2	3	3							3		
BTES204_03	Apply logic to solve various problem statements.	BTES204_03		2	3	3	2					3		

First Year Engineering Department		LABORATORY SPECIFIC OUTCOMES (LSO'S)
LABORATORY SPECIFIC OUTCOMES (LSO'S)		CO PO Mapping
Class	F. Y. B. Tech Sem I and II	
Year of Study	2020-21, 2021-22, 2022-23, 2023-24	CP1204L "Computer Programming in C

Course Name and Course Code	CP1204L “Computer Programming in C”	Course Name and Course Code	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
BTES207_01	Develop the programs on the basic programming concepts	BTES207_01	2	2	1	-				1	1	1		2
BTES207_02	Understand the syntax and develop programs based on control structure	BTES207_02	2	2	1	1		1		1	1	1		2
BTES207_03	Demonstrate the knowledge of Derived data types and user defined function	BTES207_03	2	2	1	1		1		1	1	1		2
Class	F. Y. B. Tech Sem I and II													
Year of Study	2020-21, 2021-22, 2022-23,2023-24	BTBS107L Engineering Physics Lab												
Course Name and Course Code	BTBS107L Engineering Physics Lab	Course Name and Course Code	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
BTBS107L_01	To study and demonstrate crystal structure, symmetry miller indices and light through optical fibre.	BTBS107L_01	2	1										2
BTBS107L_02	Students are expected to perform various experiments and acquirers some basic knowledge and skills	BTBS107L_02	2		1		1			1				2
BTBS107L_03	Students would be able to apply the concepts of physics in various engineering branches.	BTBS107L_03	2		1		1			1				1
Class	F. Y. B. Tech Sem I and II	BTES103 Engineering Graphics												
Year of Study	2020-21, 2021-22, 2022-23,2023-24													
Course Name and Course Code	BTES108L Engineering Graphics Lab	Course Name and Course Code	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12

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BTBS207L_03	Explain and demonstrate a few instrumental methods and chemical analysis.	BTBS207L_03												
Class	F. Y. B. Tech Sem I and II													
Year of Study	2020-21, 2021-22, 2022-23,2023-24	BTES106 Basic Civil and Mechanical Engineering												
Course Name and Course Code	BTES208L Engineering Mechanics Lab	Course Name and Course Code	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P O 11	P O 12
BTES208L_01	Apply the fundamental Laws of Engineering Mechanics	BTES208L_01	3	2										
BTES208L_02	Apply Conditions of static equilibrium to analyse given force system and also able to recognize centre of gravity.	BTES208L_02	2	2										
BTES208L_03	Discuss relation between force and motion of body.	BTES208L_03	3	1										
Class	F. Y. B. Tech Sem I and II													
Year of Study	2020-21, 2021-22, 2022-23,2023-24	BTES205 Workshop practice												
Course Name and Course Code	BTES205 Workshop practice	Course Name and Course Code	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P O 11	P O 12
BTES205_01	Students able to understand different tool & equipment for work shop practice.	BTES205_01	2	3	3									
BTES205_02	Students acquire skills for the preparation of different Carpentry/fitting/welding models.	BTES205_02	3	2	1									
BTES205_03	Students able to understand the safety precaution in the workshop.	BTES205_03	2	3	2									

‘3’ indicates strongly contribute, ‘2’ indicates moderately contribute & ‘1’ indicates weakly contribute

