METRIC ID 2.6.1

GROUP A(Physics Group)

YEAR 2017-18

Course Code	Course Name	Load Allocation			Marks Distribution			Credits
		L	T	P	Internal	External	Total	
BTPH101	Engineering Physics	3	1	-	40	60	100	4
BTAM101	Engineering Mathematics-I	4	1	-	40	60	100	5
BTHU101	Communicative English	3	0	-	40	60	100	3
BTEE 101	Basic Electrical and Electronics Engineering	4	1	-	40	60	100	5
HVPE101	Human Values and Professional Ethics	3	-	-	40	60	100	3
BTPH102	Engineering Physics Laboratory	-	-	2	30	20	50	1
BTHU102	Communicative English Laboratory	-	-	2	30	20	50	1
BTEE102	Basic Electrical and Electronics Engineering Laboratory	-	-	2	30	20	50	1
BTMP101	Manufacturing Practice	-	-	6	60	40	100	3
Total	5Theory Courses + 4 Laboratory Courses	17	3	12	350	400	750	26

COURSE OUTCOMES (SEM 1)

COURSE NAME(PHYSICS) (THEORY) **Year.:2017-18**

After completion of course students will be able to	
BTPH 101	to develop a scientific temper and analytical capability in the engineering graduates through the learning of physical concepts and their application in engineering & technology.
BTPH 101	Comprehension of some basic physical concepts will enable graduates to think logically the engineering problems that would come across due to rapidly developing new technologies.
BTPH 101	understand the various concepts effectively; logically explain the physical concepts; apply the concept in solving the engineering problem; realize, understand and explain scientifically the new developments and breakthroughs in engineering and technology;
BTPH 101	relate the developments on Industrial front to the respective physical activity, happening or phenomenon.

COURSE OUTCOMES (SEM 1)

COURSE NAME(PHYSICS) (lab) **Year:2017-18**

After completion of course students will be able to	
BTPH 102	Understand about basic electrical circuits and devices
BTPH 102	Differentiate between longitudinal and transverse arrangement of devices
BTPH 102	Study the variation of magnetic field with distance anfd how magnetic field changes with intensity of magnetisation
BTPH 102	Draw B-H curve and how to use CRO and trace on it

COURSE OUTCOMES (SEM 1)

COURSE NAME(Maths-1) (THEORY) **Year:2017-18**

After completion of course students will be able to	
BTAM 101	Students will learn fundamental mathematical concepts and how to apply them.
BTAM 101	Skill Objectives: Students should learn critical thinking, modeling/problem solving and effective uses of technology
BTAM 101	) Communication Objectives: Students should will learn how to read mathematics and use it to communicate knowledge
BTAM 101	The students are expected to understand the fundamentals of the mathematics to apply while designing technology and creating innovations

COURSE OUTCOMES (SEM 1)

COURSE NAME(COMMUNICATIVE ENGLISH) (THEORY) **year:2017-18**

After completion of course students will be able to	
BTHU101	The students should be able to converse fluently, without strain with international speakers of english in an accent and lexis that is widely understood across the globe.
BTHU101	They will be able to produce on their own texts which are clear and coherent.
BTHU101	Reading: Reading texts of varied complexity; speed reading for global and detailed meaning; processing factual and implied meanings
BTHU101	Vocabulary: Building up and expansion of vocabulary; active use of the prescribed expressions in the appropriate context
BTHU101	Grammar: Revising and practicing a prescribed set of grammar items; using grammar actively while processing or producing language
BTHU101	Writing: The qualities of good writing; Learning the prescribed written expressions of conventional use; writing business letters, emails; reports, summaries and various forms of descriptive and argumentative essays

COURSE OUTCOMES (SEM 1)

COURSE NAME(COMMUNICATIVE ENGLISH) (LAB) **Year:2017-18**

After completion of course students will be able to	
BTHU102	Be able to produce long turns without much hesitation in an accent that is understood all around.
BTHU102	Have ready access to a large lexis and conventional expressions to speak fluently on a variety of topics.
BTHU102	Have a knack for structured conversation or talk to make his transitions clear and natural to his listeners

COURSE OUTCOMES (SEM 1)

COURSE NAME(BTEE) (THEORY) **Year:2017-18**

After completion of course students will be able to	
BTEE101	The students are expected to learn and understand the importance and applications of electric and electronics material.
BTEE101	This knowledge give them a brief outline of the fundamentals that would be the foundations of todays‟ and tomorrow‟s technology

COURSE OUTCOMES (SEM 1)

COURSE NAME(BTEE) (LAB) **Year:2017-18**

After completion of course students will be able to	
BTEE102	KNOW ABOUT VARIOUS LAWS OF ELECTRIC CIRCUITS LIKE OHMS LAW,KIRCHHOFF'S LAW
BTEE102	DIFFERENTIATE BETWEEN SERIES AND PARALLEL ARRANGEMENT OF RESISTORS
BTEE102	Verify rating of CFL, truth tables of Logic gates
BTEE102	Connect various instruments according to their polarity
BTEE102	Know about characteristics of transistors and direction of rotation of motor and induction motor

COURSE OUTCOMES(SEM -1) (Theory) **Year:-2017-18**

COURSE NAME : HUMAN VALUES AND PROFESSIONAL ETHICS

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
HVPE101	TO develop sensitivity and awareness; leading to commitment and courage to act on their own belief. It is not sufficient to develop the discrimination ability
HVPE101	to act on such discrimination in a given situation.
HVPE101	s to discover what they consider valuable.
HVPE101	e to discriminate between valuable and the superficial in real situations in their life. It

	has been experimented at IIITH, IITK and UPTU on a large scale with significant results.

COURSE OUTCOMES (SEM 1)

COURSE NAME(MANUFACTURING PRACTICE) (THEORY) **Year:2017-18**

After completion of course students will be able to	
BTMP101	Know about various tools of manufacturing purpose ,various operations like defects in timber, seasoning of wood; tools, wood operation and various joints.
BTMP101	Differentiate in forging tools; equipments and operations; forgability of metals; exercises on simple smithy; forging exercise
BTMP101	Will know the use of different welding methods; welding equipment; electrodes; welding joints; welding defects; exercises involving use of gas/electric arc welding.
BTMP101	Understand sheet metal forming and joining operations, fitting practice etc.

GROUP B(CHEMISTRY GROUP)

Course Code	Course Name	Load Allocation			Marks Distribution			Credits
		L	T	P	Internal	External	Total	
BTCH 101	Engineering Chemistry	3	1	-	40	60	100	4
BTAM101	Engineering Mathematics-I	4	1	-	40	60	100	5
BTME101	Elements of Mechanical Engineering	4	1	-	40	60	100	5
BTCS 101	Fundamentals of Computer Programming and IT	3	-	-	40	60	100	3
EVSC 101	Environmental Science	2	0	-	40	60	100	2
BTCH102	Engineering Chemistry Laboratory	-	-	2	30	20	50	1
BTME102	Engineering Drawing	1	-	6	40	60	100	4
BTCS 102	Fundamentals of Computer Programming and IT Laboratory	-	-	4	30	20	50	2
BTME103	Engineering Computer Graphics Laboratory	-	-	2	30	20	50	1
Total	6Theory Courses + 3 Laboratory Courses	17	3	14	330	420	750	27

COURSE OUTCOMES(SEM -1) Subject:-Engg Chemistry(Theory) Year:2017-18

COURSE NAME :-Engineering Chemistry BTCH101

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTCH101	Understand the basic phenomenon/concepts of chemistry, the student face during course of their study in the industry and Engineering field.
BTCH101	Some new topics have been introduced to the syllabus for the development of the right attitudes by the engineering students to cope up with the continuous flow of new technology.
BTCH101	The student with the knowledge of the basic chemistry, will understand and explain scientifically the various chemistry related problems in the industry/engineering field.
BTCH101	The student will able to understand the new developments and breakthroughs efficiently in engineering and technology.
BTCH101	Understand the techniques of Spectroscopy,principles of Photochemistry, applications of Nano particles, green chemistry, petrochemicals.

COURSE OUTCOMES(SEM -1) (Subject):-Engg Chemistry(Lab) Year:2017-18

COURSE NAME : Engineering Chemistry Laboratory

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
Course Code	
BTCH102	Carried out the analysis related to the various parameters of water chemistry.
BTCH102	Carried out the analysis related to the physical and chemical properties of Fuels and Lubricants.
BTCH102	Understand about the handling techniques and analysis related to Spectrrometry, Conductometry, pH metry.
BTCH102	Understand about the handling techniques and analysis of various pigments using Chromatography.
BTCH102	Synthesize various types of Polymers and Drugs(Aspirin).

COURSE OUTCOMES(SEM -1) Subject:- M-I (Theory) Year:2017-18

COURSE NAME : Engineering Mathematics -I

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTAM-101-1	The tools of differentiation and integration of functions of multiple variables which are used in various techniques dealing engineering problems.
BTAM-101-2	To deal with functions of several variables that are essential in most branches of

	engineering
BTAM-101-3	Use vectors in various mathematical problems which arise in kinematics.
BTAM-101-4	Evaluate area, volume, surface of revolution, center of gravity and moment of inertia for various curves
BTAM-101-5	Trace different types of curves.

COURSE OUTCOMES(SEM -1) Subject: (Theory) Year:2017-18

COURSE NAME :ELEMENTS OF MECHANICAL ENGINEERING

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTME101-16,17	TO apply in day to day life with emphasis upon the principles and fundamentals involved in the inter-conversion of thermal energy into mechanical energy and vice versa, viz. all Automobile, Air-Craft, Generator and other stationary Heat Engines besides cooling machinery like Refrigerators, Air-Conditioners and water-coolers etc
BTME101-16,17	To have view about the common engineering materials finding vide application in Mech. Engg. Industry and about their strength and other related vital aspects.
BTME101-16,17	Student will feel very much self-satisfied and self-confident after learning the basic intricacies and whys and hows related with the fundamentals of the aforesaid machinery. P

COURSE OUTCOMES(SEM -1) Subject: (Theory) Year:2017-18

COURSE NAME : FUNDAMENTALS OF COMPUTER PROGRAMMING AND IT

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTCS101-16,17	To familiarize the students of all branches in engineering with computer organization, operating systems, problem solving and programming in C++
BTCS101-16,17	After the students have successfully completed the course, they shall have sufficient knowledge of the basic computer operations and various programming techniques especially in C++.

COURSE OUTCOMES(SEM -1) (LAB) Year:2017-18

COURSE NAME : Fundamentals of computer Programming and IT

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-

BTCS102-	Know about the part of the computer system such as system unit, input devices, output devices connected to the computer
BTCS102-	understand the booting process that includes switching on the system, execution of POST routine, then bootstrap loader, and loading of the operating system, and getting it ready for use.
BTCS102	explain the various elements of the desktop such as taskbar, icons (My Computer, Recycle Bin, etc.), short cuts, notification area
BTCS102	navigate with the drives, create new folders ,move folders from one drive to another drive,move files from one folder to another folder, search files and folders ,share files and folders,view and/or change the attributes of the files and folders
BTCS102	create new user accounts,install new hardware and configuring existing hardware,install new software or remove existing installed software
BTCS102	understand the menace of viruses and the working of virus guards and antivirus software

COURSE OUTCOMES (SEM 1)

COURSE NAME(ENVIRONMENTAL STUDIES) (THEORY) **Year:2017-18**

After completion of course students will be able to	
EVSC101	Measure environmental variables and interpret results
EVSC101	Evaluate local, regional and global environmental topics related to resource use and management
EVSC101	Propose solutions to environmental problems related to resource use and management
EVSC101	Interpret the results of scientific studies of environmental problems
EVSC101	Describe threats to global biodiversity, their implications and potential solutions

COURSE OUTCOMES(SEM -1) **(Theory)** **Year:2017-18**

COURSE NAME : ENGINEERING DRAWING

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTME102	s to strengthen the understanding through hands on training on any CAD software wherein they will be introduced to a number of assignments as mentioned in the said course.
BTME102	To able to draw Projection of points, lines, planes and solids as per the BIS codes prevalent to drawing
BTME102	To understand and visualize the basic shapes of Section of solids, intersection and

	development of surfaces, isometric projection and orthographic projection of simple solids/blocks

COURSE OUTCOMES(SEM -1) **(LAB)** **Year:2017-18**

COURSE NAME:- ENGINEERING COMPUTER GRAPHICS AND LABORATORY

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTME103	UNDERSTAND the basic understanding and visualization of geometrical objects and to certain extent the machine parts
BTME103	To viasualise and draw Section of solids, int ersection and development of surfaces, isometric projection and orthographic projection

SEM 2

GROUP A(Physics Group)

Physics Group **B. Tech. Second Semester** **Contact Hours: 32 Hrs.**

Course Code	Course Name	Load Allocation			Marks Distribution			Credits
		L	T	P	Internal	External	Total	
BTPH101	Engineering Physics	3	1	-	40	60	100	4
BTAM102	Engineering Mathematics-II	4	1	-	40	60	100	5
BTHU101	Communicative English	3	0	-	40	60	100	3
BTEE 101	Basic Electrical and Electronics Engineering	4	1	-	40	60	100	5
HVPE101	Human Values and Professional Ethics	3	-	-	40	60	100	3
BTPH102	Engineering Physics Laboratory	-	-	2	30	20	50	1
BTHU102	Communicative English Laboratory	-	-	2	30	20	50	1
BTEE102	Basic Electrical and Electronics Engineering Laboratory	-	-	2	30	20	50	1
BTMP101	Manufacturing Practice	-	-	6	60	40	100	3
Total	5Theory Courses + 4 Laboratory Courses	17	3	12	350	400	750	26

COURSE OUTCOMES (SEM 2)

COURSE NAME(PHYSICS) (THEORY) **Year:2017-18**

After completion of course students will be able to	
BTPH 101	to develop a scientific temper and analytical capability in the engineering graduates through the learning of physical concepts and their application in engineering & technology.
BTPH 101	Comprehension of some basic physical concepts will enable graduates to think logically the engineering problems that would come across due to rapidly developing new technologies.
BTPH 101	understand the various concepts effectively; logically explain the physical concepts; apply the concept in solving the engineering problem; realize, understand and explain scientifically the new developments and breakthroughs in engineering and technology;
BTPH 101	relate the developments on Industrial front to the respective physical activity, happening or phenomenon.

COURSE OUTCOMES (SEM 2)

COURSE NAME(PHYSICS) (lab) **Year:2017-18**

After completion of course students will be able to	
BTPH 102	Understand about basic electrical circuits and devices
BTPH 102	Differentiate between longitudinal and transverse arrangement of devices
BTPH 102	Study the variation of magnetic field with distance anfd how magnetic field changes with intensity of magnetisation
BTPH 102	Draw B-H curve and how to use CRO and trace on it

COURSE OUTCOMES(SEM -2) Subject: M-II (Theory) **Year:2017-18**

COURSE NAME : Engineering Mathematics -II

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTAM-102-1	The convergence of sequence and series and to apply different tests of convergence
BTAM-102-2	The essential tool of matrices and linear algebra in a comprehensive manner
BTAM-102-3	The effective mathematical tools for the solutions of differential equations that model physical processes.
BTAM-102-4	Develop their attitude towards problem solving.
BTAM-102-5	The tools of differentiation and integration of functions of a complex variable that are used in various techniques dealing engineering problems.

COURSE OUTCOMES (SEM 2)

COURSE NAME(COMMUNICATIVE ENGLISH) (THEORY) **Year:2017-18**

After completion of course students will be able to	
BTHU101-16,17	The students should be able to converse fluently, without strain with international speakers of english in an accent and lexis that is widely understood across the globe.
BTHU101-16,17	They will be able to produce on their own texts which are clear and coherent.
BTHU101-16,17	Reading: Reading texts of varied complexity; speed reading for global and detailed meaning; processing factual and implied meanings
BTHU101-16,17	Vocabulary: Building up and expansion of vocabulary; active use of the prescribed expressions in the appropriate context
BTHU101-16,17	Grammar: Revising and practicing a prescribed set of grammar items; using grammar actively while processing or producing language
BTHU101-16,17	Writing: The qualities of good writing; Learning the prescribed written expressions of conventional use; writing business letters, emails; reports, summaries and various forms of descriptive and argumentative essays

COURSE OUTCOMES (SEM 2)

COURSE NAME(COMMUNICATIVE ENGLISH) (LAB) **Year:2017-18**

After completion of course students will be able to	
BTHU102-16,17	Be able to produce long turns without much hesitation in an accent that is understood all around.
BTHU102-16,17	Have ready access to a large lexis and conventional expressions to speak fluently on a variety of topics.
BTHU102-16,17	Have a knack for structured conversation or talk to make his transitions clear and natural to his listeners

COURSE OUTCOMES (SEM 2)

COURSE NAME(BTEE) (THEORY) **Year:2017-18**

After completion of course students will be able to	
BTEE101-16,17	The students are expected to learn and understand the importance and applications of electric and electronics material.
BTEE101-16,17	This knowledge give them a brief outline of the fundamentals that would be the foundations of todays‟ and tomorrow‟s technology

COURSE OUTCOMES (SEM 2)

COURSE NAME(BTEE) (LAB) **Year:2017-18**

After completion of course students will be able to	
BTEE102	KNOW ABOUT VARIOUS LAWS OF ELECTRIC CIRCUITS LIKE OHMS LAW,KIRCHHOFF'S

	LAW
BTEE102	DIFFERENTIATE BETWEEN SERIES AND PARALLEL ARRANGEMENT OF RESISTORS
BTEE102	Verify rating of CFL, truth tables of Logic gates
BTEE102	Connect various instruments according to their polarity
BTEE102	Know about characteristics of transistors and direction of rotation of motor and induction motor

COURSE OUTCOMES(SEM -1) (Theory) Year:2017-18

COURSE NAME : HUMAN VALUES AND PROFESSIONAL ETHICS

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
HVPE101	TO develop sensitivity and awareness; leading to commitment and courage to act on their own belief. It is not sufficient to develop the discrimination ability
HVPE101-	to act on such discrimination in a given situation.
HVPE101	s to discover what they consider valuable.
HVPE101	e to discriminate between valuable and the superficial in real situations in their life. It has been experimented at IIITH, IITK and UPTU on a large scale with significant results.

COURSE OUTCOMES (SEM 1)

COURSE NAME(MANUFACTURING PRACTICE) (THEORY) Year:2017-18

After completion of course students will be able to	
BTMP101	Know about various tools of manufacturing purpose ,various operations like defects in timber, seasoning of wood; tools, wood operation and various joints.
BTMP101	Differentiate in forging tools; equipments and operations; forgability of metals; exercises on simple smithy; forging exercise
BTMP101	Will know the use of different welding methods; welding equipment; electrodes; welding joints; welding defects; exercises involving use of gas/electric arc welding.
BTMP101	Understand sheet metal forming and joining operations, fitting practice etc.

GROUP B(Chemistry Group)

Chemistry Group **B. Tech. Second Semester** **Contact Hours: 34 Hrs.**

Course Code	Course Name	Load Allocation			Marks Distribution			Credits
		L	T	P	Internal	External	Total	
BTCH 101	Engineering Chemistry	3	1	-	40	60	100	4
BTAM102	Engineering Mathematics-II	4	1	-	40	60	100	5
BTME101	Elements of Mechanical Engineering	4	1	-	40	60	100	5
BTCS 101	Fundamentals of Computer Programming and IT	3	-	-	40	60	100	3
EVSC 101	Environmental Science	2	0	-	40	60	100	2
BTCH102	Engineering Chemistry Laboratory	-	-	2	30	20	50	1
BTME102	Engineering Drawing	1	-	6	40	60	100	4
BTCS 102	Fundamentals of Computer Programming and IT Laboratory	-	-	4	30	20	50	2
BTME103	Engineering Computer Graphics Laboratory	-	-	2	30	20	50	1
Total	6Theory Courses + 3 Laboratory Courses	17	3	14	330	420	750	27

COURSE OUTCOMES(SEM -2) Subject:-Engg Chemistry(Theory) **Year:-2017-18**

COURSE NAME :-Engineering Chemistry BTCH101

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTCH101	Understand the basic phenomenon/concepts of chemistry, the student face during course of their study in the industry and Engineering field.
BTCH101	Some new topics have been introduced to the syllabus for the development of the right attitudes by the engineering students to cope up with the continuous flow of new technology.
BTCH101	The student with the knowledge of the basic chemistry, will understand and explain scientifically the various chemistry related problems in the industry/engineering field.
BTCH101	The student will able to understand the new developments and breakthroughs efficiently in engineering and technology.
BTCH101	Understand the techniques of Spectroscopy,principles of Photochemistry, applications of Nano particles, green chemistry, petrochemicals.

COURSE OUTCOMES(SEM -2) (Subject):-Engg Chemistry(Lab) **Year:- 2017-18**

COURSE NAME : Engineering Chemistry Laboratory BTCH102

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
Course Code	
BTCH102	Carried out the analysis related to the various parameters of water chemistry.
BTCH102	Carried out the analysis related to the physical and chemical properties of Fuels and Lubricants.
BTCH102	Understand about the handling techniques and analysis related to Spectrrometry, Conductometry, pH metry.
BTCH102	Understand about the handling techniques and analysis of various pigments using Chromatography.
BTCH102	Synthesize various types of Polymers and Drugs(Aspirin).

COURSE OUTCOMES(SEM -2) Subject: M-II (Theory) Year:-2017-18

COURSE NAME : Engineering Mathematics -II

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTAM-102-1	The convergence of sequence and series and to apply different tests of convergence
BTAM-102-2	The essential tool of matrices and linear algebra in a comprehensive manner
BTAM-102-3	The effective mathematical tools for the solutions of differential equations that model physical processes.
BTAM-102-4	Develop their attitude towards problem solving.
BTAM-102-5	The tools of differentiation and integration of functions of a complex variable that are used in various techniques dealing engineering problems.

COURSE OUTCOMES(SEM -2) Subject: (Theory) Year:-2017-18

COURSE NAME :ELEMENTS OF MECHANICAL ENGINEERING

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTME101	TO appLY in day to day life with emphasis upon the principles and fundamentals involved in the inter-conversion of thermal energy into mechanical energy and vice versa, viz. all Automobile, Air-Craft, Generator and other stationary Heat Engines besides cooling machinery like Refrigerators, Air-Conditioners and water-coolers etc
BTME101	To have view about the common engineering materials finding vide application in Mech. Engg. Industry and about their strength and other related vital aspects.
BTME101	Student will feel very much self-satisfied and self-confident after learning the basic intricacies and whys and hows related with the fundamentals of the aforesaid machinery. P

COURSE OUTCOMES(SEM -2) Subject: (Theory) Year:-2017-18

COURSE NAME : FUNDAMENTALS OF COMPUTER PROGRAMMING AND IT

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTCS101	To familiarize the students of all branches in engineering with computer organization, operating systems, problem solving and programming in C++
BTCS101	After the students have successfully completed the course, they shall have sufficient knowledge of the basic computer operations and various programming techniques especially in C++.

COURSE OUTCOMES(SEM -2) (LAB) Year:-2017-18

COURSE NAME : Fundamentals of computer Programming and IT

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTCS102-	Know about the part of the computer system such as system unit, input devices, output devices connected to the computer
BTCS102-	understand the booting process that includes switching on the system, execution of POST routine, then bootstrap loader, and loading of the operating system, and getting it ready for use.
BTCS102	explain the various elements of the desktop such as taskbar, icons (My Computer, Recycle Bin, etc.), short cuts, notification area
BTCS102	navigate with the drives, create new folders ,move folders from one drive to another drive,move files from one folder to another folder, search files and folders ,share files and folders,view and/or change the attributes of the files and folders
BTCS102	create new user accounts,install new hardware and configuring existing hardware,install new software or remove existing installed software
BTCS102	understand the menace of viruses and the working of virus guards and antivirus software

COURSE OUTCOMES (SEM 2)

COURSE NAME(ENVIRONMENTAL STUDIES) (THEORY) Year:2017-18

After completion of course students will be able to	
EVSC101	Measure environmental variables and interpret results

EVSC101	Evaluate local, regional and global environmental topics related to resource use and management
EVSC101	Propose solutions to environmental problems related to resource use and management
EVSC101	Interpret the results of scientific studies of environmental problems
EVSC101	Describe threats to global biodiversity, their implications and potential solutions

COURSE OUTCOMES(SEM -2) (Theory) **Year:2017-18**

COURSE NAME : ENGINEERING DRAWING

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTME102	s to strengthen the understanding through hands on training on any CAD software wherein they will be introduced to a number of assignments as mentioned in the said course.
BTME102	To able to draw Projection of points, lines, planes and solids as per the BIS codes prevalent to drawing
BTME102	To understand and visualize the basic shapes of Section of solids, intersection and development of surfaces, isometric projection and orthographic projection of simple solids/blocks

COURSE OUTCOMES(SEM -2) **Year:-2017-18**

COURSE NAME:- ENGINEERING COMPUTER GRAPHICS AND LABORATORY

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTME103	UNDERSTAND the basic understanding and visualization of geometrical objects and to certain extent the machine parts
BTME103	To visualize and draw Section of solids, intersection and development of surfaces, isometric projection and orthographic projection

Group A(Physics Group)

Year:2018-19,2019-20,2020-21,2021-22

First Semester Group-A Contact Hrs. : 24 Course Code	Course Type	Course Title	Load Allocations			Marks Distribution		Total Marks	Credits
L		T		P		Internal		External	
BTPHXX-18	Basic Science Course	Physics	3	1	0	40	60	100	4
BTPHXX-18	Basic Science Course	Physics (Lab)	0	0	3	30	20	50	1.5
BTAMXX-18	Basic Science Course	Maths-I	3*	1	0	40	60	100	4
BTEE101-18	Engineering Science Course	Basic Electrical Engineering	3	1	0	40	60	100	4
BTEE102-18	Engineering Science Course	Basic Electrical Engineering (Lab)	0	0	2	30	20	50	1
BTME101-18	Engineering Science Courses	Engineering Graphics & Design	1	0	4	60	40	100	3
BMPD101-18		Mentoring and Professional Development	0		0	2		Satisfactory / Un-Satisfactory	Non-Credit
TOTAL	**10**	**3**	**11**		**220**	**280**		**500**	**17.5**

SEM 1

COURSE OUTCOMES(SEM -1) CIVIL ENGINEERING

COURSE NAME (MECHANICS OF SOLID) Physics-1 (Theory) Year- 2018-19,2019-20,2020-21,2021-22

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTPH101-18	Understand the vector mechanics for a classical system.
BTPH101-18	Identify various types of forces in nature, frames of references, and conservation laws.

BTPH101-18	Know the simple harmonic, damped, and forced simple harmonic oscillator for a mechanical system.
BTPH101-18	Analyze the planar rigid body dynamics for a mechanical system.
BTPH101-18	Apply the knowledge obtained in this course to the related problems.

COURSE OUTCOMES (SEM -1)

COURSE NAME (MECHANICS OF SOLID Physics-1 (LAB) Year- 2018-19,2019-20,2020-21,2021-22

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTPH111-18	Able to understand the concepts learned in the mechanics of solids.
BTPH111-18	Learning the skills needed to verify some of the concepts of theory courses.
BTPH111-18	Trained in carrying out precise measurements and handling sensitive equipme
BTPH111-18	Able to understand the principles of error analysis and develop skills in experimental design
BTPH111-18	Able to document a technical report which communicates scientific information in a clear and concise manner

COURSE OUTCOMES (SEM -1)

COURSE NAME (CALCULUS AND LINEAR ALGEBRA) (Maths) Year- 2018-19,2019-20,2020-21,2021-22

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTAM101-18	The fallouts of Rolle's Theorem that is fundamental to application of analysis to Engineering problems.
BTAM101-18	To apply differential and integral calculus to evaluate definite, improper integrals and its applications.
BTAM101-18	The convergence of sequence and series and to apply different tests of convergence
BTAM101-18	To deal with functions of several variables that are essential in most branches of engineering.
BTAM101-18	The essential tool of matrices and linear algebra in a comprehensive manner.

COURSE OUTCOMES(SEM -1)

COURSE NAME (BASIC ELECTRICAL ENGINEERING) Year- 2018-19,2019-20,2020-21,2021-22

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTEE101-18	Have the knowledge of DC circuits, AC Circuits, basic magnetic circuits, working principles of electrical machines, and components of low voltage electrical installations

BTEE101-18	Be able to analyze of DC circuits, AC Circuits
BTEE101-18	Understand the basic magnetic circuits and apply it to the working of electrical machines
BTEE101-18	Be introduced to types of wiring, batteries, and LT switchgear.

COURSE OUTCOMES(SEM -1)

COURSE NAME (BASIC ELECTRICAL ENGINEERING LAB) Year- 2018-19,2019-20,2020-21,2021-22

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTEE102-18	The ability to use common electrical measuring instruments and understand the fundamentals of electrical engineering.
BTEE102-18	The ability to make electrical connections, and measure power, power factor using appropriate equipments
BTEE102-18	Have the knowledge of electrical machines, components and their ratings.
BTEE102-18	Understand the operation of transformers and electrical machines.

COURSE OUTCOMES (SEM 1) COMMON FOR GROUP(A & B) Year- 2018-19,2019-20,2020-21,2021-22

COURSE NAME(MENTORING AND PROFESSIONAL DEVELOPMENTG (THEORY +LAB)

The STUDENTS WILL LEARN:-	
BTME101-18	Introduction to engineering design and its place in society
BTME101-18	Exposure to the visual aspects of engineering design
BTME101-18	Exposure to engineering graphics standards
BTME101-18	Exposure to solid modeling
BTME101-18	Exposure to computer-aided geometric design
BTME101-18	Exposure to creating working drawings
BTME101-18	Exposure to engineering communication

Branch-Computer science and engineering

COURSE OUTCOMES (SEM -1)

COURSE NAME (SEMICONDUCTOR PHYSICS)(THEORY) Year- 2018-19,2019-20,2020-21,2021-22

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTPH104-18	Understand and explain the fundamental principles and properties of electronic materials and semiconductors
BTPH104-18	Understand and describe the interaction of light with semiconductors in terms of fermi golden rule

BTPH104-18	Understand and describe the impact of solid-state device capabilities and limitations on electronic circuit performance.
BTPH104-18	Understand the design, fabrication, and characterization techniques of Engineered semiconductor materials
BTPH104-18	Develop the basic tools with which they can study and test the newly developed devices and other semiconductor applications.

COURSE OUTCOMES (SEM -1)

COURSE NAME (SEMICONDUCTOR PHYSICS)(LAB) Year- 2018-19,2019-20,2020-21,2021-22

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTPH114-18	Able to verify some of the theoretical concepts learnt in the theory courses.
BTPH114-18	Trained in carrying out precise measurements and handling sensitive equipment.
BTPH114-18	Introduced to the methods used for estimating and dealing with experimental uncertainties and systematic "errors."
BTPH114-18	Learn to draw conclusions from data and develop skills in experimental design
BTPH114-18	Write a technical report which communicates scientific information in a clear and concise manner

COURSE OUTCOMES (SEM -1)

COURSE NAME (MATHEMATICS PAPER-1) Year- 2018-19,2019-20,2020-21,2021-22

COURSE OUTCOMES AFTER COMPLETION OF COURSE,STUDENTS WILL BE ABLE TO:-	
BTAM104-18	To apply differential and integral calculus to notions of curvature and to improper integrals.
BTAM104-18	Apart from various applications, they will have a basic understanding of Beta and Gamma functions.
BTAM104-18	The essential tools of matrices and linear algebra including linear transformations, eigen values, diagonalization and orthogonalization.

COURSE OUTCOMES(SEM 1)

COURSE NAME :- BASIC ELECTRONIC ENGINEERING(THEORY) Year- 2018-19,2019-20,2020-21,2021-22

The STUDENTS WILL LEARN:-	
BTEE101-18	Have the knowledge of DC circuits, AC Circuits, basic magnetic circuits, working principles of electrical machines, and components of low voltage electrical installations
BTEE101-18	Be able to analyze of DC circuits, AC Circuits
BTEE101-18	Understand the basic magnetic circuits and apply it to the working of electrical machine
BTEE101-18	Be introduced to types of wiring, batteries, and LT switchgear.

COURSE OUTCOMES(SEM 1)

COURSE NAME (BASIC ELECTRONIC ENGINEERING) (LAB) Year- 2018-19,2019-20,2020-21,2021-22

The STUDENTS WILL LEARN:-	
BTEE102-18	The ability to use common electrical measuring instruments and understand the fundamentals of electrical engineering.
BTEE102-18	The ability to make electrical connections, and measure power, power factor using appropriate equipments.
BTEE102-18	Have the knowledge of electrical machines, components and their ratings.
BTEE102-18	Understand the operation of transformers and electrical machines.

COURSE OUTCOMES (SEM -1) Year- 2018-19,2019-20,2020-21,2021-22

COURSE NAME (ENGINEERING GRAPHICS AND DESIGN)(THEORY+ LAB)

All phases of manufacturing or construction require the conversion of new ideas and design concepts into the basic line language of graphics. Therefore, there are many areas (civil, mechanical, electrical, architectural and industrial) in which the skills of the CAD technicians play major roles in the design and development of new products or construction. Students prepare for actual work situations through practical training in a new state-of-the-art computer designed CAD laboratory using engineering software. This course is designed toaddress:	
BTME101-18	to prepare you to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
BTME101-18	to prepare you to communicate effectively
BTME101-18	to prepare you to use the techniques, skills, and modern engineering tools necessary for engineering practice

Group B(Chemistry Group)

Course Code	Course Type	Course Title	Load Allocations			Marks Distribution	Total Marks		Credits
			L	T	P	Internal	External		
BTCH101-18	Basic Science Course	Chemistry-I	3	1	0	40	60	100	4
BTCH102-18	Basic Science Course	Chemistry-I (Lab)	0	0	3	30	20	50	1.5
BTAMXX-18	Basic Science Course	Maths-I	3*	1	0	40	60	100	4
BTPS101-18	Engineering Science Course	Programming for Problem Solving	3	0	0	40	60	100	3
BTPS102-18	Engineering Science Course	Programming for Problem Solving (Lab)	0	0	4	30	20	50	2
BTMP101-18	Engineering Science Courses	Workshop / Manufacturing Practices	1	0	4	60	40	100	3
BTHU101-18	Humanities and Social Sciences including Management courses	English	2	0	0	40	60	100	2
BTHU102-18	Humanities and Social Sciences including Management courses	English (Lab)	0	0	2	30	20	50	1
BMPD101-18	Mentoring and Professional Development	0	0			2	Satisfactory / Un-Satisfactory		Non-Credit
TOTAL	**12**	**2**	**15**		**290**	**360**	**650**		**20.5**

Branch(ECE/ME)

COURSE OUTCOMES (SEM -1)

COURSE NAME (CHEMISTRY-1)(THEORY) **Year- 2018-19,2019-20,2020-21,2021-22**

The concepts developed in this course will aid in quantification of several concepts in chemistry that have been introduced at the 10+2 levels in schools. Technology is being increasingly based on the electronic, atomic and molecular level modifications. Quantum theory is more than 100 years old and to understand phenomena at nanometer levels, one has to base the description of all chemical processes at molecular levels. The course will enable the student to:	
BTCH-101-18	Analys microscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces.
BTCH101-18	Rationalise bulk properties and processes using thermodynamic considerations
BTCH101-18	Distinguish the ranges of the electromagnetic spectrum used for exciting different molecular energy levels in various spectroscopic techniques
BTCH101-18	Rationalise periodic properties such as ionization potential, electronegativity, oxidation states and electronegativity.
BTCH101-18	List major chemical reactions that are used in the synthesis of molecules.

COURSE OUTCOMES (SEM -1)

COURSE NAME (CHEMISTRY-1)(LAB) **Year- 2018-19,2019-20,2020-21,2021-22**

The chemistry laboratory course will consist of experiments illustrating the principles of chemistry relevant to the study of science and engineering. The students will learn to:	
BTCH102-18	Estimate rate constants of reactions from concentration of reactants/products function of time
BTCH102-18	Measure molecular/system properties such as surface tension, viscosity, conductance of solutions, redox potentials, chloride content of water, etc
BTCH102-18	Synthesize a small drug molecule and analyse a salt sample

COURSE OUTCOMES (SEM -1) **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME (PROGRAMMING FOR PROBLEM SOLVING)(THEORY)

The STUDENTS WILL LEARN:-	
BTPS101-18	To formulate simple algorithms for arithmetic and logical problems.
BTPS101-18	To translate the algorithms to programs (in C language).
BTPS101-18	To test and execute the programs and correct syntax and logical errors.
BTPS101-18	To implement conditional branching, iteration and recursion

BTPS101-18	To decompose a problem into functions and synthesize a complete program using divide and conquer approach.
BTPS101-18	To use arrays, pointers and structures to formulate algorithms and programs
BTPS101-18	To apply programming to solve matrix addition and multiplication problems and searching and sorting problems.
BTPS101-18	To apply programming to solve simple numerical method problems, namely rot finding of function, differentiation of function and simple integration.

COURSE OUTCOMES (SEM -1) **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME (PROGRAMMING FOR PROBLEM SOLVING)(LAB)

The STUDENTS WILL LEARN:-	
BTPS102-18	To formulate the algorithms for simple problem
BTPS102-18	To translate given algorithms to a working and correct program
BTPS102-18	To be able to correct syntax errors as reported by the compilers
BTPS102-18	To be able to identify and correct logical errors encountered at run time
BTPS102-18	To be able to write iterative as well as recursive program
BTPS102-18	To be able to represent data in arrays, strings and structures and manipulate them through a program
BTPS102-18	To be able to declare pointers of different types and use them in defining self referential structures
BTPS102-18	To be able to create, read and write to and from simple text files.

COURSE OUTCOMES (SEM -1)

COURSE NAME (Communicative English) (Theory) **Year- 2018-19,2019-20,2020-21,2021-22**

The STUDENTS WILL LEARN:-	
BTHU101-18	Become independent users of English language.
BTHU101-18	Understand spoken and written English language of varied complexity on most including some abstract topics; particularly the language of their chosen technical field.
BTHU101-18	Show awareness of appropriate format and a capacity for explaining their views in a rational manner.
BTHU101-18	Converse fluently, without strain with international speakers of English in an accent and lexis that is widely understood across the globe.
BTHU101-18	Produce on their own texts which are clear and coherent.

COURSE OUTCOMES (SEM -1)

COURSE NAME (Communicative English) (Lab) **Year- 2018-19,2019-20,2020-21,2021-22**

The STUDENTS WILL LEARN:-	
BTHU101-18	Become familiar with the standard spoken English.
BTHU101-18	Develop a high degree of understanding of spoken material as used in academic and professional environment.
BTHU101-18	Be able to produce long turns without much hesitation in an accent that is understood all around.
BTHU101-18	Have ready access to a large lexis and conventional expressions to speak fluently on a variety of topics.
BTHU101-18	Have a knack for structured conversation or talk to make his transitions clear and natural to his listeners.

COURSE OUTCOMES (SEM -1) **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME (WORKSHOP AND MANUFACTURING PRACTICE)(THEORY+LAB)

The STUDENTS WILL LEARN:-	
BTMP101-18	Upon completion of this course, the students will gain knowledge of the different manufacturing processes which are commonly employed in the industry, to fabricate components using different materials.
BTMP101-18	Upon completion of this laboratory course, students will be able to fabricate components with their own hands. .
BTMP101-18	They will also get practical knowledge of the dimensional accuracies and dimensional tolerances possible with different manufacturing processes
BTMP101-18	By assembling different components, they will be able to produce small devices of their interest.

SEM 2

Group A(Physics Group)

Second Semester **Group-B** **Contact Hrs.: 24**

Course Code	Course Type	Course Title	Load Allocations			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
BTPHXX-18	Basic Science Course	Physics	3	1	0	40	60	100	4
BTPHXX-18	Basic Science Course	Physics (Lab)	0	0	3	30	20	50	1.5
BTAMXX-18	Basic Science Course	Maths-II	3*	1	0	40	60	100	4
BTEE101-18	Engineering Science Course	Basic Electrical Engineering	3	1	0	40	60	100	4
BTEE102-18	Engineering Science Course	Basic Electrical Engineering (Lab)	0	0	2	30	20	50	1
BTME101-18	Engineering Science Courses	Engineering Graphics & Design	1	0	4	60	40	100	3
BMPD201-18		Mentoring and Professional Development	0	0	2	Satisfactory / Un-Satisfactory			Non-Credit
TOTAL			**10**	**3**	**11**	**220**	**280**	**500**	**17.5**

Branch: Mechanical Engineering

COURSE OUTCOMES(SEM 2)

COURSE NAME (ELECTROMAGNETISM) Physics-1 (THEORY) Year- 2018-19,2019-20,2020-21,2021-22

The STUDENTS WILL LEARN:-	
BTPH103-18	Specify the constitutive relationships for fields and understand their important.
BTPH103-18	Describe the static and dynamic electric and magnetic fields for technologically important structures.
BTPHU03-18	Measure the voltage induced by time varying magnetic flux
BTPH103-18	acquire the knowledge of Maxwell equation and electromagnetic field theory and propagation and reception of electro-magnetic wave systems.
BTPH103-18	have a solid foundation in engineering fundamentals required to solve problems and also to pursue higher studies.

COURSE OUTCOMES(SEM 2) **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME (ELECTROMAGNETISM) **Physics (LAB)**

The STUDENTS WILL LEARN:-	
BTPH113-18	Able to verify some of the theoretical concepts learnt in the theory courses.
BTPH113-18	Trained in carrying out precise measurements and handling sensitive equipment
BTPH113-18	understand the methods used for estimating and dealing with experimental uncertainties and systematic "errors."
BTPH113-18	Learn to draw conclusions from data and develop skills in experimental design.

BTPH113-18	Write a technical report which communicates scientific information in a clear and concise manner.

COURSE OUTCOMES(SEM 2) Year- 2018-19,2019-20,2020-21,2021-22

COURSE NAME (MATHS-2) Ordinary Differential Equations

The STUDENTS WILL LEARN:-	
BTAM-18	The effective mathematical tools for the solutions of differential equations that model physical processes.
BTPH113-18	The tools of differentiation and integration of functions of a complex variable that are used in various techniques dealing engineering problems.

COURSE OUTCOMES(SEM 2) Year- 2018-19,2019-20,2020-21,2021-22

COURSE NAME(MENTORING AND PROFESSIONAL DEVELOPMENTG (THEORY +LAB)

The STUDENTS WILL LEARN:-	
BTME101-18	Introduction to engineering design and its place in society
BTME101-18	Exposure to the visual aspects of engineering design
BTME101-18	Exposure to engineering graphics standards
BTME101-18	Exposure to solid modeling
BTME101-18	Exposure to computer-aided geometric design
BTME101-18	Exposure to creating working drawings
BTME101-18	Exposure to engineering communication

COURSE OUTCOMES(SEM 2) Year- 2018-19,2019-20,2020-21,2021-22

COURSE NAME(ENGINEERING GRAPHICS AND DESIGN) (THEORY +LAB)

All phases of manufacturing or construction require the conversion of new ideas and design concepts into the basic line language of graphics. Therefore, there are many areas (civil, mechanical, electrical, architectural and industrial) in which the skills of the CAD technicians play major roles in the design and development of new products or construction. Students prepare for actual work situations through practical training in a new state-of-the-art computer designed CAD laboratory using engineering software. This course is designed toaddress:	
BTME101-18	to prepare you to design a system, component, or process to meet desired needs within

	realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
BTME101-18	to prepare you to communicate effectively
BTME101-18	to prepare you to use the techniques, skills, and modern engineering tools necessary for engineering practice

Branch: Electronics and communication Engineering

Sem:2

COURSE OUTCOMES(SEM 2) **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME: Semiconductor and optoelectronics Physics(THEORY)

The STUDENTS WILL LEARN:-	
BTPH105-18	Understand and explain the fundamental principles and properties of electronic materials and semiconductors.
BTPH105-18	Understand and describe the interaction of light with semiconductors in terms of fermi golden rule.
BTPH105-18	Understand and describe the impact of solid-state device capabilities and limitations on electronic circuit performance
BTPH105-18	Understand the design, fabrication, characterization techniques, and measurements of Engineered semiconductor materials
BTPH105-18	Learn the basics of the optoelectronic devices, LEDs, semiconductor lasers, and photo detectors

COURSE OUTCOMES(SEM 2) **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME: Semiconductor and optoelectronics Physics(LAB)

The STUDENTS WILL LEARN:-	
BTPH115-18	Able to verify some of the theoretical concepts learnt in the theory courses.
BTPH115-18	Trained in carrying out precise measurements and handling sensitive equipment
BTPH115-18	Introduced to the methods used for estimating and dealing with experimental uncertainties and systematic "errors."
BTPH115-18	Learn to draw conclusions from data and develop skills in experimental design.
BTPH115-18	Write a technical report which communicates scientific information in a clear and concise manner.

COURSE OUTCOMES(SEM 2) **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME (MATHS-2) Ordinary Differential Equations

The STUDENTS WILL LEARN:-	
BTAM-18	The effective mathematical tools for the solutions of differential equations that model physical processes.
BTPH113-18	The tools of differentiation and integration of functions of a complex variable that are used in various techniques dealing engineering problems.

COURSE OUTCOMES(SEM 2) **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME(MENTORING AND PROFESSIONAL DEVELOPMENTG (THEORY +LAB)

The STUDENTS WILL LEARN:-	
BTME101-18	Introduction to engineering design and its place in society
BTME101-18	Exposure to the visual aspects of engineering design
BTME101-18	Exposure to engineering graphics standards
BTME101-18	Exposure to solid modeling
BTME101-18	Exposure to computer-aided geometric design
BTME101-18	Exposure to creating working drawings
BTME101-18	Exposure to engineering communication

COURSE OUTCOMES(SEM 2) **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME(ENGINEERING GRAPHICS AND DESIGN) (THEORY +LAB)

All phases of manufacturing or construction require the conversion of new ideas and design concepts into the basic line language of graphics. Therefore, there are many areas (civil, mechanical, electrical, architectural and industrial) in which the skills of the CAD technicians play major roles in the design and development of new products or construction. Students prepare for actual work situations through practical training in a new state-of-the-art computer designed CAD laboratory using engineering software. This course is designed toaddress:	
BTME101-18	to prepare you to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
BTME101-18	to prepare you to communicate effectively
BTME101-18	to prepare you to use the techniques, skills, and modern engineering tools necessary for engineering practice

GROUP B(CHEMISTRY GROUP)

SEM 2

Second Semester **Group-A** **Contact Hrs. : 29**

Course Code	Course Type	Course Title	Load Allocations			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
BTCH101-18	Basic Science Course	Chemistry-I	3	1	0	40	60	100	4
BTCH102-18	Basic Science Course	Chemistry-I (Lab)	0	0	3	30	20	50	1.5
BTAMXX-18	Basic Science Course	Maths-II	3*	1	0	40	60	100	4
BTPS101-18	Engineering Science Course	Programming for Problem Solving	3	0	0	40	60	100	3
BTPS102-18	Engineering Science Course	Programming for Problem Solving (Lab)	0	0	4	30	20	50	2
BTMP101-18	Engineering Science Courses	Workshop / Manufacturing Practices	1	0	4	60	40	100	3
BTHU101-18	Humanities and Social Sciences including Management courses	English	2	0	0	40	60	100	2
BTHU102-18	Humanities and Social Sciences including Management courses	English (Lab)	0	0	2	30	20	50	1
BMPD201-18		Mentoring and Professional Development	0	0	2	Satisfactory / Un-Satisfactory			Non-Credit
	TOTAL		**12**	**2**	**15**	**290**	**360**	**650**	**20.5**

COURSE OUTCOMES (SEM -2) **BRANCH: CSE/CE**

COURSE NAME (CHEMISTRY-1)(THEORY) **Year- 2018-19,2019-20,2020-21,2021-22**

The concepts developed in this course will aid in quantification of several concepts in chemistry that have been introduced at the 10+2 levels in schools. Technology is being increasingly based on the electronic, atomic and molecular level modifications. Quantum theory is more than 100 years old and to understand phenomena at nanometer levels, one has to base the description of all chemical processes at molecular levels. The course will enable the student to:	
BTCH-101-18	Analys microscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces.
BTCH101-18	Rationalise bulk properties and processes using thermodynamic considerations
BTCH101-18	Distinguish the ranges of the electromagnetic spectrum used for exciting different molecular energy levels in various spectroscopic techniques
BTCH101-18	Rationalise periodic properties such as ionization potential, electronegativity, oxidation states and electronegativity.
BTCH101-18	List major chemical reactions that are used in the synthesis of molecules.

COURSE OUTCOMES (SEM -2) **BRANCH: CSE/CE**

COURSE NAME (CHEMISTRY-1)(LAB) **Year- 2018-19,2019-20,2020-21,2021-22**

The chemistry laboratory course will consist of experiments illustrating the principles of chemistry relevant to the study of science and engineering. The students will learn to:	
BTCH102-18	Estimate rate constants of reactions from concentration of reactants/products function of time
BTCH102-18	Measure molecular/system properties such as surface tension, viscosity, conductance of solutions, redox potentials, chloride content of water, etc
BTCH102-18	Synthesize a small drug molecule and analyse a salt sample

COURSE OUTCOMES (SEM -2) **BRANCH: CSE/CE** **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME (PROGRAMMING FOR PROBLEM SOLVING)(THEORY)

The STUDENTS WILL LEARN:-	
BTPS101-18	To formulate simple algorithms for arithmetic and logical problems.
BTPS101-18	To translate the algorithms to programs (in C language).
BTPS101-18	To test and execute the programs and correct syntax and logical errors.
BTPS101-18	To implement conditional branching, iteration and recursion
BTPS101-18	To decompose a problem into functions and synthesize a complete program using divide and conquer approach.
BTPS101-18	To use arrays, pointers and structures to formulate algorithms and programs
BTPS101-18	To apply programming to solve matrix addition and multiplication problems and searching and sorting problems.
BTPS101-18	To apply programming to solve simple numerical method problems, namely rot finding of function, differentiation of function and simple integration.

COURSE OUTCOMES (SEM -2) **BRANCH: CSE/CE** **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME (PROGRAMMING FOR PROBLEM SOLVING)(LAB)

The STUDENTS WILL LEARN:-	
BTPS102-18	To formulate the algorithms for simple problem
BTPS102-18	To translate given algorithms to a working and correct program
BTPS102-18	To be able to correct syntax errors as reported by the compilers
BTPS102-18	To be able to identify and correct logical errors encountered at run time
BTPS102-18	To be able to write iterative as well as recursive program
BTPS102-18	To be able to represent data in arrays, strings and structures and manipulate them through a program
BTPS102-18	To be able to declare pointers of different types and use them in defining self

	referential structures
BTPS102-18	To be able to create, read and write to and from simple text files.

COURSE OUTCOMES (SEM -2) BRANCH: CSE/CE

COURSE NAME (Communicative English) (Theory) Year- 2018-19,2019-20,2020-21,2021-22

The STUDENTS WILL LEARN:-	
BTHU101-18	Become independent users of English language.
BTHU101-18	Understand spoken and written English language of varied complexity on most including some abstract topics; particularly the language of their chosen technical field.
BTHU101-18	Show awareness of appropriate format and a capacity for explaining their views in a rational manner.
BTHU101-18	Converse fluently, without strain with international speakers of English in an accent and lexis that is widely understood across the globe.
BTHU101-18	Produce on their own texts which are clear and coherent.

COURSE OUTCOMES (SEM -2) BRANCH: CSE/CE

COURSE NAME (Communicative English) (Lab) Year- 2018-19,2019-20,2020-21,2021-22

The STUDENTS WILL LEARN:-	
BTHU102-18	Become familiar with the standard spoken English.
BTHU102-18	Develop a high degree of understanding of spoken material as used in academic and professional environment.
BTHU102-18	Be able to produce long turns without much hesitation in an accent that is understood all around.
BTHU102-18	Have ready access to a large lexis and conventional expressions to speak fluently on a variety of topics.
BTHU102-18	Have a knack for structured conversation or talk to make his transitions clear and natural to his listeners.

COURSE OUTCOMES (SEM 2) BRANCH: CSE/CE Year- 2018-19,2019-20,2020-21,2021-22

COURSE NAME (WORKSHOP AND MANUFACTURING PRACTICE)(THEORY+LAB)

The STUDENTS WILL LEARN:-	
BTMP101-18	Upon completion of this course, the students will gain knowledge of the different manufacturing processes which are commonly employed in the industry, to fabricate components using different materials.
BTMP101-18	Upon completion of this laboratory course, students will be able to fabricate components with their own hands. .
BTMP101-18	They will also get practical knowledge of the dimensional accuracies and dimensional tolerances possible with different manufacturing processes
BTMP101-18	By assembling different components, they will be able to produce small devices of their interest.

COURSE OUTCOMES(SEM 2) **Year- 2018-19,2019-20,2020-21,2021-22**

COURSE NAME(MENTORING AND PROFESSIONAL DEVELOPMENTG (THEORY +LAB)

The STUDENTS WILL LEARN:-	
BTME101-18	Introduction to engineering design and its place in society
BTME101-18	Exposure to the visual aspects of engineering design
BTME101-18	Exposure to engineering graphics standards
BTME101-18	Exposure to solid modeling
BTME101-18	Exposure to computer-aided geometric design
BTME101-18	Exposure to creating working drawings
BTME101-18	Exposure to engineering communication