Manoharbhai Patel Institute of Engineering and Technology,Shahapur,Bhandara

Course Outcome

Department of Applied Sciences & Humanities

1st Semester

Course Outcome

Subject :	**Applied Mathematics – I(Theory)**
Code:	**(BESI-1)**
Sr. No.	**Course Outcome**
1	expansion of function and apply the knowledge of derivation to find limiting values of indeterminate forms and curvature of variable and they apply the skill for finding series expansion of function of two variable .
2	Calculate the equation of tangent, maxima & minima radius of curvature by differentiation.
3	They can find rank of matrix consistency of the system of equation.
4	Student know how to solve first order first degree and higher degree equation and linear equation reducible to linear and exact differential equation they can apply this knowledge to solve engineering problems in simple electrical circuit .
5	Student gain the knowledge to solve higher order differential equation with constant coefficient simultaneous differential equation ,special type of equation and their knowledge to differential equation in varies engineering problems such as oscillation of spring ,deflection of beam etc.
6	Students learn Cartesian and polar forms of complex numbers, geometrical representation of fundamental operation on complex number. De Moivre's theorem theorem ,roots of complex number hyperbolic function and their inverse .Logarithic function of complex numbers ,separation into real and imaginary parts.

Subject :	**ENGINEERING PHYSICS(Theory)**
Code:	**(BESI-2T)**
Sr. No.	**Course Outcome**
1	To understand the limitations of classical mechanics and the basic theoretical concepts of matter and energy.
2	To study the concepts of matter waves and uncertainty principle and Use of Schrödinger wave equation in analyzing motion of particle in a box.
3	To understand the crystal structure, their types and basic principle of XRD.
4	To understand the concepts of semiconductors and working principles of diode, transistors and their applications.

Subject :	**ENGINEERING PHYSICS(Practical)**
Code:	**(BESI-2P)**
Sr. No.	**Course Outcome**
1	To understand elementary analytical techniques of least square fit to the data, error estimation and idea of significant figure.
2	To dermine the characteristics of PN junction diode and zener .
3	To dermine the characterics of PNP/NPN transistor in CE and CB mode.
4	To study Hall effect and determine type of semiconductor, calculate Hall coefficient, carrier concentration.
5	To determine Band Gap of semiconductor material in the form of diode and thermistor.

Subject :	**Engineering Chemistry (Theory)**
Code:	**(BESI-3T)**
Sr. No.	**Course Outcome**
1	To understand the principles of water characterization and treatment for potable and industrial purposes.
2	To make the students understand the Principles of corrosion and corrosion control.
3	To understand various process of manufacturing of cement, types and application.
4	To learn significance of green chemistry and green synthesis.
5	To study various energy storage devices.

Subject :	Engineering Chemistry (Practical)
Code:	(BESI-3P)
Sr. No.	Course Outcome
1	To determine and estimation of temporary and permanent hardness, chlorine, alkalinity, calcium, magnesium, D. O., C. O. D. and pH of water.
2	To determine capacity of anion and cation exchange resin.
3	To determine and estimation of copper, nickel ferrous and ferric.
4	Verification of Beers law.
5	Use of pH meter and colorimeter.

Subject :	Basic Electrical Engineering(Theory)
Code:	(BESI- 4T)
Sr. No.	Course Outcome
1	Familiar with various components
2	Connect the electrical circuit based on the syllabus of theory and test the performance by the way of observation, calculations and conclusion.
3	Understand and apply basic laws for solution of electrical network.
4	Understand the concept of a.c. machine and demonstrate the test on transformer.

Subject :	Basic Electrical Engineering(Practical)
Code:	(BESI-4P)
Sr. No.	Course Outcome
1	Familiar with various components
2	Connect the electrical circuit based on the syllabus of theory and test the performance by the way of observation, calculations and conclusion.
3	Understand and apply basic laws for solution of electrical network.
4	Understand the concept of a.c. machine and demonstrate the test on transformer.

Subject :	Basic Civil Engineering (Thoery)
Code:	(BESI-5T)
Sr. No.	Course Outcome
1	To understand scope, role as well as general concepts of civil engineering.
2	To study and understand the various components of building with building materials.
3	To know the role and general concepts of surveying and transportation in civil engineering.
4	To know and understand the effect of environment on natural resource management.
5	To know the various equipment’s and sustainable materials used in construction.

Subject :	Engineering Graphics – I (Thoery)
Code:	(BESI-6T)
Sr. No.	Course Outcome
1	Students are able to read, write and communicate engineering drawings.
2	Draw different engineering curves and know their applications
3	Students are able to draw the projections of points, lines, planes, solids,
4	Draw orthographic projections of different objects.
5	Visualize three dimensional objects and draw Isometric Projections

Subject :	Engineering Graphics – I (Practical)
Code:	(BESI-6P)
Sr. No.	Course Outcome
1	Students are able to read, write and communicate engineering drawings.
2	To develop ability to differentiate between conic section and curves.
3	To develop ability to solve problems on projections of points, lines, planes & solids.
4	Develop ability to interpret first angle projection method.
5	To interpret and able to solve problem on orthographic projection of given object.
6	Develop ability to differentiate between isometric view and isometric projections.

2nd Semester
Course Outcome

Subject :	**Applied Mathematics – II (Theory)**
Code:	**(BESII-1)**
Sr. No.	**Course Outcome**
1	How to use Gamma and Beta function for evaluating definite integrals in simplified way Also they learned the technique of differentiation under integration sign to evaluate definite integrals in engineering problems.
2	Students developed the skill to trace Cartesian ,polar parametric curves can apply this knowledge to find area between two curves ,surface area ,volume of solid of revolution.
3	Students can evaluate double and triple integral and apply this technique for finding area between two curves ,volume ,mass and C.G.
4	Students can find triple integral ,product of vectors and can solve vector equation they can resolve components of vector in different directions . They understand the concept of irrotational ,solenoidal vectors ,gradient and directional derivative
5	Students developed the skill of evaluating line ,surface and volume integrals .They evaluate multiple integral using relation between single ,double and triple integral.
6	Students can fit straight line ,parabola and exponential curves to given data using least square method . They can find lines of regression and correlation coefficient .Also students know the technique to find missing terms in discrite data for unequal intervals and find analytical solution of difference equation which are very useful for varies branches of engineering.

Subject :	**Advanced Physics(Thoery)**
Code:	**(BESII-2T)**
Sr. No.	**Course Outcome**
1	To understand the quantum transitions, working principle of various LASERs and their applications in engineering.
2	To understand the basic principle of optics and their applications in determining refractive index of solids and liquids.
3	To understand ballistics of the particles and the concepts of electron optics and its application in the design of CRO, Cyclotron and Bainbridge mass Spectrograph.
4	To understand the principle of optical fiber and its application in the field of communication.
5	To understand significance of the nonmaterial's, its applications and the various synthesis and characterization techniques of nonmaterials.

Subject :	**Advanced Physics (Practical)**
Code:	**(BESII-2P)**
Sr. No.	**Course Outcome**
1	To study different waveforms using CRO.
2	To dermine frequency and phase of electrical signal using CRO.
3	To dermine the refractive index of glass prism and doubly refractive prism.
4	To determine the wavelength of monochromatic light using transmission grating.
5	To determine the wavelength of LASER using transmission grating
6	To determine the wavelength of monochromatic light using Newton's ring.

Subject :	**Materials Chemistry (Practical)**
Code:	**(BESII-3T)**
Sr. No.	**Course Outcome**
1	To determine acid value, viscosity, flash point, fire point, carbon residue of lubricating oil and fuel.
2	To determine moisture, ash, volatile matter and carbon content of coal.
3	To handle Redwood viscometer, Cleveland's, Abel's, Pensky Martin's, Conradson's apparatus Bomb calorimeter and Penetrometer.
4	To prepare biodiesel.
5	To study adsorption of acetic acid and saponification of acetic acid.

Subject :	Engineering Chemistry (Practical)
Code:	(BESII-3P)
Sr. No.	Course Outcome
1	To determine acid value, viscocity, flash point, fire point, carbon residue of lubricating oil and fuel
2	To determine moisture, ash, volatile matter and corbon content of coal
3	To handle Redwood viscometer Cleveland's Abel's, Pensky Martin's, Conradson's appratus Bomb calorimeter and Penetrometer.
4	To prepare biodiesel.
5	To study absorption of acitic acid and saponification of acetic acid.

Subject :	Engineering Mechanics (Theory)
Code:	(BESII-4T)
Sr. No.	Course Outcome
1	Course outcome the student will be able to use ofscalar and vector analytical techniques for the analysing system of forces and moments .
2	Use of fundamental concepts of mechanics (kinetics and kinamatics)on the particles of rigid bodies.
3	Apply the basic knowledge of maths and physics to solve the real world problems.
4	Lab course outcomes the students will be able to verify the basic principles and laws of mechanics .
5	Analyse and solve the problems based on force systems and moments.
6	Experimental observations on the real world problems.

Subject :	Engineering Mechanics (Practical)
Code:	(BESII-4P)
Sr. No.	Course Outcome
1	Understanding and verification of basic force, moment and end supports by simple machines.
2	Verify laws of forces polygon and law of movments using force ploygon and bell cranck lever appratus and also study parallel force appratus.
3	Determine mechanical advantage velocity ratio and efficiency of simple machines.
4	Evaluate coefficient of friction between trolly and inclined palne.

Subject :	Advanced Electrical Engineering(Thoery)
Code:	(BESII-5)
Sr. No.	Course Outcome
1	Demonstrate the concept of electrical power generation, transmission, distribution and the understanding about conventional/renewable energy sources.
2	Demonstrate the understanding about necessity of electrical earthing, safety and protecting devices, electrical energy utilization, illumination sources and their selection.
3	Understand various kinds of tariffs in domestic electrical utility.
4	Describe the construction, principle, applications and performance characteristics of DC machines and induction motor.

Subject :	Engineering Graphics – II (Practical)
Code:	(BESII-6)
Sr. No.	Course Outcome
1	To develop ability to understand CAD package
2	To develop ability to draw the geometrical constructions by computer. Using CAD
3	Develop ability to draw section of solids and development of lateral surfaces.
4	Develop ability to draw missing lines, missing views

Department of Civil Engineering

3rd Semester

Course Outcome

Subject :	MATHAMATICS-III (Theory)
Code:	BECVE301T
Sr. No.	Course Outcome

BECVE301T.1	Students would be able to know numericals on Fouriers series and Partial differential equation.
BECVE301T.2	Students would be able to know Partial differential equation of First order , First degree with application to problems on vibration String and beam
BECVE301T.3	Apply problemsrelated to Finite elements analysis using calculus of variation.
BECVE301T.4	Analyse structure of Static and dynamics loads using Matrices and eigen values.
BECVE301T.5	Know the several applications of numerical methods using computer specially stuctural and fluid mechanics where clacssical solution are tedious.
BECVE301T.6	Know the optimisation techniques.

Subject :	**STRENGTH OF MATERIALS (Theory)**
Code:	**BECVE302T**
Sr. No.	**Course Outcome**
BECVE302T.1	The students would be able to understand the behavior of materials under different stress and strain conditions.
BECVE302T.2	The students would be able to draw bending moment, shear force diagram, bending stress and shear stress distribution for beams under the different conditions of loading and calculate the deflection.

Subject :	**STRENGTH OF MATERIALS (Practical)**
Code:	**BECVE302P**
Sr. No.	**Course Outcome**
BECVE302P.1	The students would be able to understand in the behaviour of different mechanism under the stress and strain condition by performing exeriments.
BECVE302P.2	Understand the mechanical and physical properties of material.
BECVE302P.3	Make a testing report on different material.

Subject :	**ENVIRONMENTAL ENGINEERING – I (Theory)**
Code:	**BECVE303T**
BECVE303T.1	The students would be able to understand the importance and necessity of water supply.
BECVE303T.2	The students would be able to determine the capacity of water supply scheme.
BECVE303T.3	The students would have the basic knowledge related to the conveyance systems and the appurtenances used.
BECVE303T.4	The students would have knowledge of characteristics of water, drinking water standards and necessity of treatment.
BECVE303T.5	The students would be able to design various units of conventional water treatment plant.
BECVE303T.6	The students would be equipped with the basic knowledge related to design of water supply system.
BECVE303T.7	The students should be able to understand of necessity of treatment, types of treatment processes and disposal methods for solid waste.

Subject :	**ENVIRONMENTAL ENGINEERING – I (Practical)**
Code:	**BECVE303P**
BECVE303P.1	Able to conduct experiments, analyse and interpret data to ascertain water quality and compare with water quality standard
BECVE303P.2	Know water quality parameters , drinking water standard
BECVE303P.3	Type of treatment to be given performance and of WTP.
BECVE303P.4	Knowledge of soft computing and report preparation

Subject :	**ENGINEERING GEOLOGY – I (Theory)**
Code:	**BECVE304T**
Sr. No.	**Course Outcome**
BECVE304T.1	Generate global vision of earth pressure.
BECVE304T.2	Identify the surface material.
BECVE304T.3	Knows reason of phenomenon of the earthquake zoning.
BECVE304T.4	Knows about groundwater availability zone and groundwater management.
BECVE304T.5	Knows megascopic and mechanical properties of rocks.

Subject :	ENGINEERING GEOLOGY – I (Practical)
Code:	BECVE304P
BECVE 304P.1	Students will be able to identify the properties of rocks and minerals.
BECVE 304P.2	Students will be able to study the geological maps.

Subject :	CONCRETE TECHNOLOGY (Theory)
Code:	BECVE305T
BECVE 305T.1	The students would be able to check and recommend different constituent of concrete.
BECVE 305T.2	The students would be able to control method of manufacture of concrete.
BECVE 305T.3	The students would be able to test strength and quality of plastic and set concrete.
BECVE 305T.4	The students would have the understanding of application admixture and its effect on properties of concrete.
BECVE 305T.5	The students would be able to understand the effect of process of manufacturing on different properties of concrete.
BECVE 305T.6	The students would be able to understand various environmental factors which affect durability of concrete, analyse cause of deterioration of concrete components and to suggest various preventive measures to it.
BECVE 305T.7	The students would be able to test various strength of concrete by destructive and nondestructive testing methods.

Subject :	CONCRETE TECHNOLOGY (Practical)
Code:	BECVE305P
BECVE305P.1	Students would be able to understand all the practical test with there procedure.
BECVE305P.2	Student would be able to uderstand the environmental effect and rammedies on concrete.
BECVE305P.3	Students would be able to understand all the design criteria and modern techanics onconcrete.
BECVE305P.4	Students would be able to compare the various strength of concrete by using or comparing with software spss.

4th Semester

Course Outcome

Subject :	STRUCTURAL ANALYSIS – I (Theory)
Code:	BECVE401T
Sr. No.	Course Outcome
BECVE401T.1	The student would be able to apply knowledge to analyse concept of deflection, bending moment and shear force diagram in beams, frames, trusses and columns under various loading conditions using different analysis methods.
BECVE401T.2	The student would be able to apply knowledge to determine forces in determinate and indeterminate structures by the force and matrix method.
BECVE401T.3	The students would be able to perform ILD analysis of determinate beams and trusses.

Subject :	STRUCTURAL ANALYSIS – I (Practical)
Code:	BECVE401P
Sr. No.	Course Outcome
BECVE401P.1	Perform experiments to understand the concept of deflections,bending moments, shear force diagrams in beams, frames, trusses ,arches and columns.
BECVE401P.2	Verify the theorem experimentally.
BECVE401P.3	Use of strain guages ib civil engineering.
BECVE401P.4	Plot influence line diagram,BMD,SFD on the basis of principle.

Subject :	GEOTECHNICAL ENGINEERING-I (Theory)
Code:	BECVE402T
Sr. No.	Course Outcome
BECVE402T.1	Students would be able to determine the index and engineering properties of the soil.
BECVE402T.2	Students would be able to determine the suitability of foundation for a particular type of soil.
BECVE402T.3	Students will be able to classify the soils.
BECVE402T.4	Students would be able to evaluate the stresses in the soil mass.

Subject :	GEOTECHNICAL ENGINEERING-I (Practical)
Code:	BECVE402P
Sr. No.	Course Outcome
BECVE402P.1	Students would be able to classify the soil .
BECVE402P.2	Students would be able to know and investigate mechanical properties of soil.
BECVE402P.3	Students would be able to investigate shear parameters.
BECVE402P.4	Students would be able to know the various field density parameters.

Subject :	TRANSPORTATION ENGINEERING – I (Thoery)
Code:	BECVE403T
Sr. No.	Course Outcome
BECVE403T.1	A person with broad vision and complete knowledge of design and construction practices in highway engineering and pavement.
BECVE403T.2	The student will be able to test highway materials and draw appropriate conclusion.
BECVE403T.3	The student will be able to maintain and propose measurement.
BECVE403T.4	The student will be able to undertake Traffic studies.

Subject :	TRANSPORTATION ENGINEERING – I(Practical)
Code:	BECVE403P
Sr. No.	Course Outcome
BECVE403P.1	Students would be able to uderstand design and construction practices in highway engg. and pavement.
BECVE403P.2	Students would be able to understand the traffic studies, and uses of signals .
BECVE403P.3	To know the environmental effects and remedies in highway engg. and pavement.

Subject :	SURVEYING – I (Theory)
Code:	BECVE404T
Sr. No.	Course Outcome
BECVE404T.1	The students would be able to do temporary and permanent adjustments.
BECVE404T.2	The students would be able to measure distances and angles.
BECVE404T.3	The students would be able to orient and draw the various maps.
BECVE404T.4	The students would be able to calculate areas and volumes of the Civil Engg. work.
BECVE404T.5	The student would be able to undertake various civil engineering surveys work.

Subject :	SURVEYING – I (Practical)
Code:	BECVE404P
Sr. No.	Course Outcome
BECVE404P.1	Students would be able to interpret the field data and prepare field notes.
BECVE404P.2	Use of various conventional instruments in surveying with respect to utility and precision.
BECVE404P.3	Understand errors occur during operation and apply correction for it.

Subject :	BUILDING CONSTRUCTION & MATERIAL (Theory)
Code:	BECVE405T
Sr. No.	Course Outcome
BECVE405T.1	The students are able to identify components of a building.
BECVE405T.2	The students are able to differentiate and identify types of building materials.
BECVE405T.3	The students are able to select appropriate material for building construction.
BECVE405T.4	The students are able to plan various construction related activities and their quality control.

5th Semester
Course Outcome

Subject :	STRUCTURAL ANALYSIS –II (Theory)
Code:	BECVE501T
Sr. No.	Course Outcome
BECVE501T.1	Apply the different methods of analysis of frames in practical problems.
BECVE501T.2	Formulation of stiffness matrix, transformation matrix, load matrix for various structural.
BECVE501T.3	components for analysis purposes.

BECVE501T.4	Understand the basics of finite element method in the analysis of structural components.
BECVE501T.5	Understand the concepts related to structural dynamics.

Subject :	**STRUCTURAL ANALYSIS –II (Practical)**
Code:	**BECVE501P**
Sr. No.	**Course Outcome**
BECVE501P.1	The students would be able to apply theknowledge toanalyze the structure and solution to problem by using software.
BECVE501P.2	The students shall be able to undersatnd the different methods of analysis in practical problems.
BECVE501P.3	The students shall beable to apply theknowledge to determine the forces in deterninant and indeterminant structure by MDM, Kannis and Matrix method.
BECVE501P.4	The Studentsshall be able to understand the basics of finite element method in the analysis and structural components and the concepts of structural dunamics.

Subject :	**REINFORCED CEMENT CONCRET(RCC) STRUCTURES (Theory)**
Code:	**BECVE502T**
Sr. No.	**Course Outcome**
BECVE502T.1	Understand the basic concepts of structural design Methods of RCC to the practicalproblem
BECVE502T.2	Understand the composite action of reinforced steel and concrete in reinforced concrete
BECVE502T.3	Use the knowledge of the structural properties of materials i.e. steel and concrete in
BECVE502T.4	Use the knowledge in structural planning and design of various components of buildings.
BECVE502T.5	Apply the concepts and applications of prestressed concrete in real problems

Subject :	**REINFORCED CEMENT CONCRET(RCC) STRUCTURES (Practical)**
Code:	**BECVE502P**
Sr. No.	**Course Outcome**
BECVE502P.1	The students would be able to design different components of building such as beams,columns ,slab, foundation asper IS codes
BECVE502P.2	The students would be able to undersatnd professional RCC design and Drawing.
BECVE502P.3	The students would be able touse the knowledge of the structuralproperties of material that is steel and concrete and assessing the strength

Subject :	**FLUID MECHANICS -I (Theory)**
Code:	**BECVE503T**
Sr. No.	**Course Outcome**
BECVE503T.1	Measure and determine fluid pre ssures and forces on plates/surfaces, pipe bends, etc.
BECVE503T.2	Apply the Bernoulli's equation to solve the problems in fluid.
BECVE503T.3	Understand the concepts of dimensional analysis use the dimensionless number suitably.
BECVE503T.4	Understand the basic concepts related to laminar and turbulent flow.
BECVE503T.5	Apply the principles of hydrostatics and determine the forces.

Subject :	**FLUID MECHANICS -I (Practical)**
Code:	**BECVE503P**
Sr. No.	**Course Outcome**
BECVE503P.1	Students would be able to identify the requirement for laboratory experiment.
BECVE503P.2	To conduct experiment and identify the type of flow.
BECVE503P.3	To uderstand the purpose of learning properties of fluid ,forces and pressures.

Subject :	**GEOTECHNICAL ENGINEERING-II (Theory)**
Code:	**BECVE504T**
Sr. No.	**Course Outcome**
BECVE504T.1	Use the knowledge of different soil exploration techniques to ascertain the properties of soil.
BECVE504T.2	To analyze the stability of natural slopes, safety & sustainability of the slopes, design of retaining structures, reinforced earth walls, etc.
BECVE504T.3	Practice Ground Improvement Techniques.
BECVE504T.4	Design the shallow & deep foundation.

Subject :	**HYDROLOGY AND WATER RESOURCES (Theory)**

Code:	BECVE505T
Sr. No.	Course Outcome
BECVE505T.1	Use of knowledge of basics of hydrology in calculating infiltration, evaporation, total runoff runoff.
BECVE505T.2	Use the techniques of the Hydrographs to forecast flood discharge at various durations.
BECVE505T.3	Apply the Statistical techniques to analyze the flood occurrence & frequency.
BECVE505T.4	Use the knowledge pertaining to the flood to plan flood routine & emergency plans
BECVE505T.5	Apply the knowledge of geo-hydrology terms in planning, assessing & computation of ground water potential and its assessment using various techniques.
BECVE505T.6	Take-up planning of water resources mini project.

Subject :	Communicative English & Technical Writing (Practical)
Code:	BECVE506P
Sr. No.	Course Outcome
BECVE506P.1	Use functional grammar
BECVE506P.2	Write at work, draft reports and letters
BECVE506P.3	To understand the planning and procedure of carrying out research work
BECVE506P.4	Dexterous in presentation skills and participate in GD

6th Semester
Course Outcome

Subject :	STEEL STRUCTURES (Theory)
Code:	BECVE601T
Sr. No.	Course Outcome
BECVE601T.1	Use the knowledge of structural properties in assessing its strength for the construction purpose.
BECVE601T.2	Apply the knowledge of various techniques in analyzing the steel structural components.
BECVE601T.3	Make use of knowledge of analysis in structural planning and design of various components of building.

Subject :	STEEL STRUCTURES (Practical)
Code:	BECVE601P
Sr. No.	Course Outcome
BECVE601P.1	Able to calculate axially loaded member by tensions and compression members.
BECVE601P.2	Design of connection: Beam to beam, beam to column.
BECVE601P.3	Design of column & its components.

Subject :	SURVEYING II (Theory)
Code:	BECVE602T
Sr. No.	Course Outcome
BECVE602T.1	Carry forward the concepts of basic surveying techniques
BECVE602T.2	Operate various sur vey instruments effectively with precision
BECVE602T.3	Use different types of techniques in various surveying problems
BECVE602T.4	Apply the concepts of modern surveying techniques & instrumentation.
BECVE602T.5	Take – up mini project using different surveying techniques.

Subject :	SURVEYING II (Practical)
Code:	BECVE602P
Sr. No.	Course Outcome
BECVE602P.1	The students would be able to calculate the elevations at required points.
BECVE602P.2	The students would be able to setting out the curves.
BECVE602P.3	Plan a survey and use various instruments for road project.

Subject :	FLUID MECHANICS -II (Theory)
Code:	BECVE503T
Sr. No.	Course Outcome
BECVE503T.1	Understand the concepts related to boundary layer theory and determination of drag and lift
BECVE503T.2	forces.
BECVE503T.3	Apply the knowledge of theories and equations of pipe flow in analyzing and designing the pipe

BECVE503T.4	network systems and its components including water hammer pressures.
BECVE503T.5	Use the concepts of uniform and critical flow through open channels including design of efficient
BECVE503T.6	channel sections.
BECVE503T.7	Understand the different techniques of dimensional analysis and its use in model testing.
BECVE503T.8	Understand and apply basics related to Turbines & Pumps in Water Resources planning.
BECVE503T.9	Make use of specific energy concepts in the analysis of open channel flow.
BECVE503T.10	Undertake Gradually Varied Flow analysis and its computation.

Subject :	**FLUID MECHANICS -II (Theory)**
Code:	**BECVE503P**
Sr. No.	**Course Outcome**
BECVE503P.1	To know the working principal, components and function of hydraulic equipments.
BECVE503P.2	To know the caliberation of various hydraulic measurining devices use in pipes and channels.
BECVE503P.3	Test the performance of pumps and turbiens.

Subject :	**BUILDING DESIGN & DRAWING (Practical)**
Code:	**BECVE604P**
Sr. No.	**Course Outcome**
BECVE604P.1	Understand building bye laws & building code
BECVE604P.2	Apply the principles of building planning and design.
BECVE604P.3	To draw submission/working drawing using suitable software.
BECVE604P.4	Make use of knowledge to give layout on the field as per the plan.
BECVE604P.5	To draw simple perspective drawings.
BECVE604P.6	Understand Drawings and Detailing of Building services

Subject :	**ENVIRONMENTAL ENGINEERING-II (Theory)**
Code:	**BECVE605T**
Sr. No.	**Course Outcome**
BECVE605T.1	Use the concept related to water & its quality, sewage, sewer, storm water, etc in its hydraulic design.
BECVE605T.2	Apply the knowledge of different components of sewer in construction, testing & maintenance of sewers.
BECVE605T.3	To test the sample of waste water in the laboratory for physical & chemical characteristics.
BECVE605T.4	Take-up functional planning, layout and design of water treatment plant components.
BECVE605T.5	Take-up functional planning, layout and design of sewage treatment plant components.
BECVE605T.6	Plan for rural sanitation provisions, perform functional design of septic tank.
BECVE605T.7	Analyze the industrial waste water for its treatment units.
BECVE605T.8	Make use of knowledge & effect of air pollution, solid waste in planning for its prevention and control.

Subject :	**SITE VISIT & MINI PROJECT (Theory)**
Code:	**BECVE605P**
Sr. No.	**Course Outcome**
BECVE605P.1	provision, licensee & licensor ,architects, structural designer, etc
BECVE605P.2	Get an idea of various construction equipment, manpower & techniques used at site, techniques of batching, mixing, transportation and placement of different construction materials.
BECVE605P.3	Get an overview on safety measures, basic amenities to provide, inventory control.
BECVE605P.4	Write a legible, correct and technically sound report after the visit.
BECVE605P.5	Ascertain the provisions and execution as per the working drawing.

7th Semester
Course Outcome

Subject :	**ADVANCED CONCRETE STRUCTURES (Theory)**
Code:	**BECVE701T**
Sr. No.	**Course Outcome**
BECVE701T.1	Understand the behavior and failure modes different concrete members
BECVE701T.2	Analyze and apply the results in designing various concrete member of structure.
BECVE701T.3	Apply the knowledge & skills in practical problems
BECVE701T.4	Understand the relevant software and use the same in analysis & design of concrete members

Subject :	ADVANCED CONCRETE STRUCTURES (Practical)
Code:	BECVE701P
Sr. No.	Course Outcome
BECVE701P.1	Analyze and design various concrete member of structure.
BECVE701P.2	Understand the relevant software and use the same in analysis & design of concrete members.
BECVE701P.3	Can write a report of visit to a site of concrete construction

Subject :	ESTIMATING AND COSTING(Theory)
Code:	BECVE702T
Sr. No.	Course Outcome
BECVE702T.1	Prepare the preliminary estimate for administrative approval & technical sanction for a civil engineering project.
BECVE702T.2	Write the specification of the works to be undertaken, prepare the tender documents, fill the contracts and make use of knowledge of different contract submission & opening in awarding the work to the contractor.
BECVE702T.3	Use the concept of SD, EMD, MAS, Running Bill, Final Bill during the entire project.
BECVE702T.4	Schedule the project for its timely completion.
BECVE702T.5	Use the technique of Rate analysis in estimating the exact cost of material & manpower and hence the entire project.
BECVE702T.6	Estimate the bill of quantities using different techniques of preliminary & detailed estimation of buildings & roads.
BECVE702T.7	Arrive the exact value of the asset (movable & immovable) using different Valuation techniques.

Subject :	ESTIMATING AND COSTING (Practical)
Code:	BECVE702P
Sr. No.	Course Outcome
BECVE702P.1	The studentswould be able to prepare estimate by using center line method and long wall short wall method.
BECVE702P.2	The students would be able to use techniques of rate analysis in estimating exact cost of material.
BECVE702P.3	The students would be able to prepare the preliminary estimate for a administrative approval and technical sanctionfor civil engineering work.

Subject :	AIR POLLUTION AND SOLID WASTE MANAGEMENT (ELECTIVE-I) (Theory)
Code:	BECVE703T
Sr. No.	Course Outcome
BECVE703T.1	Understand different aspects of air pollutants, its sources and effects on man and material etc.
BECVE703T.2	Design controls methods and equipments for air pollution to reduce its impact on environment.
BECVE703T.3	Understand problems arriving in handling large amount of solid waste generated ,its collection andtransportation, processing and will be able to design safe collection and disposal methods.

Subject :	CONSTRUCTION MANAGEMENT & LAW (Theory)
Code:	BECVE704T
Sr. No.	Course Outcome
BECVE704T.1	Demonstrate the understanding of various types of projects, modern construction techniques and will exhibit the mastery in construction planning, scheduling and various controls.
BECVE704T.2	Achieve the knowledge of various types' of equipments to be used in the construction and its operational cost estimates, understand manpower requirement, planning, resources utilization and management.
BECVE704T.3	To know the quality control aspects in planning & management, modern trends project management, application of information system in management of construction projects, safety provisions and equipments.
BECVE704T.4	Analyze the legal aspects in construction projects through the understanding of various laws pertaining to civil engineering and architectural planning & sanctioning, labor & organizational welfare measure, provisions of arbitration and litigations.

Subject :	TRANSPORTATION ENGINEERING-II (Theory)

Code:	BECVE705T
Sr. No.	Course Outcome
BECVE705T.1	Understand the functions of various elements of railways, airports, tunnels and docks and haror.
BECVE705T.2	Plan and design various elements of railways, airports, tunnels and docks and harbor.
BECVE705T.3	Understand the various principles traffic control in railways, airports, tunnels and docks and harbor.
BECVE705T.4	Understand layout, design and construction permanent way, runway, taxiways, tunnels, births and jerty.
BECVE705T.5	Understand the maintenance of various elements of railways, airports, tunnels and docks.

Subject :	INDUSTRIAL CASE STUDY & PROJECT SEMINAR (Practical)
Code:	BECVE706P
Sr. No.	Course Outcome
BECVE706P.1	Get an idea of industrial organisational set ups.
BECVE706P.2	The students would be able to get familiar with fiekld work.
BECVE706P.3	The students would be able to apply theorotical knowledge in the field.
BECVE706P.4	Get an overviewof the tem work at site.

8th Semester
Course Outcome

Subject :	IRRIGATION ENGINEERING (Theory)
Code:	BECVE801T
Sr. No.	Course Outcome
BECVE801T.1	Understand the importance and scope of irrigation engineering.
BECVE801T.2	Understand fully the methods and efficiencies of irrigation, crop water requirement.
BECVE801T.3	Understand the planning, design and operation of storage reservoir and make use of it in the practical situation.
BECVE801T.4	Understand the basic profile of dams and use the knowledge in checking stability of Gravity dams and Earth dams.
BECVE801T.5	Understand the theories of Canal design and apply the concept to design lined and unlined canals and detail out the cross sections.
BECVE801T.6	Understand water logging and provide the solution to such problem.

Subject :	PAVEMENT ANALYSIS AND DESIGN (ELECTIVE-II) (Theory)
Code:	BECVE802T
Sr. No.	Course Outcome
BECVE802T.1	Analyze and Design pavement and under different loading conditions for highways and airfields taking into consideration different characteristics.
BECVE802T.2	Propose a pavement management system framework.
BECVE802T.3	Design highway appurtenance and highway drainage.
BECVE802T.4	Perform different tests considering field conditions and using the knowledge to increase the strength of pavements along with its economy point of view.

Subject :	WATER AND WASTE WATER TREATMENT (ELECTIVE III) (Theory)
Code:	BECVE803T
Sr. No.	Course Outcome
BECVE803T.1	Understand composition of typical solid wastes ,their sources,collection, treatment and disposal method.
BECVE803T.2	Attain an ability touse the techniques,skill,and modern engineering tools necessary for environment engineering practices.
BECVE803T.3	Designing of different units of water &waste water treatment plant.
BECVE803T.4	Give the knowledge about recent development in water &waste water treatment .

Subject :	WATER AND WASTE WATER TREATMENT (ELECTIVE III) (Practical)
Code:	BECVE803P
Sr. No.	Course Outcome
BECVE803P.1	Able to conduct experiment analysis and interpret data related to water and waste water qualities parameters.
BECVE803P.2	Comparison with drinking water quality and disposal standards .
BECVE803P.3	Typesof treatment tobe given to water and waste water.

BECVE803P.4	Design various units of WTP and STP.

Subject :	**Construction Economics and Finance (Theory)**
Code:	**BECVE804T**
Sr. No.	**Course Outcome**
BECVE804T.1	Acquaint with various economic and financial aspects of construction industry.
BECVE804T.2	Understand the tools and techniques of economic analysis for improving their decision making skills.
BECVE804T.3	Understand the knowledge of economics and finance with special reference to construction industry.
BECVE804T.4	Understand the concept of IRR, turnkey construction projects.
BECVE804T.5	Apply knowledge of inflation, recession, financial ratios.

Subject :	**PROJECT (Practical)**
Code:	**BECVE805P**
Sr. No.	**Course Outcome**
BECVE805P.1	Students would be able to apply the knowledge of civil engineering in their project.
BECVE805P.2	Get an overview of teamwork on project.

Department of Computer Engineering

3rd Semester
Course Outcome

Subject :	**APPLIED MATHEMATICS-III (Theory)**
Code:	**BECME301T**
Sr. No.	Course Outcome
BECME301T .1	Recall & use the Laplace transform to solve constant-coefficient differential equations with initial
BECME301T .2	Compute the Z-transform of a sequence and use to solve constant-coefficient difference equations with initial conditions.
BECME301T .3	Calculate Fourier Transforms for the variety of simple functions.
BECME301T .4	Shall be competent in solving linear PDEs using classical solution methods.
BECME301T .5	Shall be able to model and calculate random variables.
BECME301T .6	Be able to differentiate between common type of data and use distributions.

Subject :	**DIGITAL ELECTRONICS(Theory)**
Code:	**BECME302T**
Sr. No.	Course Outcome
BECME302T.1	At the end of the course the student will be able to analyse, design,and evaluate digital circuits of medium complexity, that are based on SSIs, MSIs,and programmable logic devices.

Subject :	**DIGITAL ELECTRONICS (Practical)**
Code:	**BECME302P**
Sr. No.	Course Outcome
BECME302P.1	Study of logic gates and realization of OR,AND,NOT AND XOR functions using universal gates.
BECME302P.2	Design and implement combinational circuits like half adder/full adder,half subtractor/full subtractor,codeconverters, comparators,MUX/DEMUX.
BECME302P.3	Design and implement sequential circuits like flip-flops,counters and shift registers.
BECME302P.4	Study of 8-bit DAC and 8-bit ADC.

Subject :	**CONCEPT IN COMPUTER ENGINEERING (Theory)**
Code:	**BECME303T**
Sr. No.	Course Outcome
BECME303T.1	Basic concepts of input/output units and computer memory. It also gives the knowledge of Computer
BECME303T.2	Basic idea of Computer languages and Computer softwares are also provided by the course.
BECME303T.3	It also provides Operating systems & open source technology and Multimedia data acquiaion and processing knowledge.

Subject :	**PROGRAMMING METHODOLOGY & DATA STRUCTURES (Theory)**
Code:	**BECME304T**

Sr. No.	Course Outcome
BECME304T.1	Understand the basics of computer programming, C language.
BECME304T.2	Use appropriate data structures like arrays, linked list, stacks and queues to solve real world problems efficiently.
BECME304T.3	Illustrate and compare various techniques for searching,sorting and hashing.
BECME304T.4	Represent and manipulate data using nonlinear data structures like trees and graphs to design algorithms for various applications.

Subject :	**PROGRAMMING METHODOLOGY & DATA STRUCTURES (Practical)**
Code:	**BECME304P**
Sr. No.	Course Outcome
BECME304P .1	To develop simple programs using various data structures.
BECME304P .2	Implement various basic data structures and its operations.
BECME304P .3	Implement various searching and sorting algorithms.
BECME304P .4	Implement various tree operations.
BECME304P .5	Implement various graphs algorithms.

Subject :	**INTRODUCTION TO COMPUTER NETWORK (Theory)**
Code:	**BECME305T**
Sr. No.	Course Outcome
BECME305T.1	Master the terminology concept of the OSI reference model model and TCP/IP reference model and protocols,design issues in LAN and WAN.
BECME305T.2	Understand the protocols and isssues at physical and datalink layers including various IEEE standards.
BECME305T.3	Have agood understanding of the network layer including IP addressing,routing and transport layer.
BECME305T.4	Have a basic knowledge of the session layer ,presentation layer,application layer,use of cryptography and network security.

4th Semester
Course Outcome

Subject :	**DISCRETE MATHEMATICS AND GRAPH THEORY (Theory)**
Code:	**BECME401T**
Sr. No.	Course Outcome
BECME401T.1	Know grouping of objects and operation, Relation, ordering of objects.
BECME401T.2	Know grouping of objects and operation, Relation, ordering of objects.
BECME401T.3	Know Groups and Rings, their types and Applications.
BECME401T.4	Know Data structure used to represent different kinds of objects viz Graph, Trees.
BECME401T.5	Know the basics of combinatorial structure and develop algebraic technique to solve combinatorial problems.
BECME401T.6	Programming application of group, ring and number theory.

Subject :	**FILE STRUCTURE AND DATA PROCESSING (Theory)**
Code:	**BECME402T**
Sr. No.	Course Outcome
BECME402T.1	Students will know a software design course, which develops concepts and techniques for structuring and manipulating data both in the computer and on external storage devices.
BECME402T.2	Topics include a review of basic data structures, balanced tree structures, graphs, sequential and direct access files, external sorting.
BECME402T.3	Able to understand datastructures multilevel indexing systems, b-trees is also introduced.
BECME402T.4	Undestand the concepts hashing, collision resolution and pattern of record access, consequential processing and file merging.

Subject :	**MICROPROCESSOR (Theory)**
Code:	**BECME403T**
Sr. No.	Course Outcome

BECME403T.1	An ability to apply mathematical foundations, algorithmic principles and computer science theory in the modeling and design, computer based system in a way that demonstrates comprehension of the trade offs involve in design choices.
BECME403T.2	An ability to apply design and development principles in the construction of software systems of varying complexity.
BECME403T.3	An ability to use techniques, skills and modern engineering tools necessary for engineering practice, and an ability to communicate effectively.

Subject :	**MICROPROCESSOR (Practical)**
Code:	**BECME403P**
Sr. No.	Course Outcome
BECME403P.1	Make use of the microprocessor trainer kit to execute 8085 programs.
BECME403P.2	Develop assembly language program for 8085to solve simple programs.
BECME403P.3	Make use of interfacing devices for a specified application.
BECME403P.4	Develop simple assembly language program for 8086.
BECME403P.5	Develop assembly language program for 8086 using BIOS/DOS Calls.

Subject :	**NUMERICAL COMPUTATIONAL TECHNIQUES (Theory)**
Code:	**BECME404T**
Sr. No.	Course Outcome
BECME404T.1	To know appropriate numerical methods to solve algebraic and transcendental equations.
BECME404T.2	Develop appropriate numerical methods to approximate a function.
BECME404T.3	Develop appropriate numerical methods to solve a differential equation.
BECME404T.4	Derive appropriate numerical methods to evaluate a derivative at a value.

Subject :	**OBJECT ORIENTED METHODOLOGY (Theory)**
Code:	**BECME405T**
Sr. No.	Course Outcome
BECME405T.1	Understand the object oriented concepts like object, class, inheritence, aggregation.
BECME405T.2	Able to know the state diagram, dynamic modulling, data flow diagrams, object modelling, system design, handlling boundry conditions.
BECME405T.3	Gaining knowledge about object design, design optimizaion, physical packaging, design decisions.
BECME405T.4	Undestand comparisons of methodologies, programming languages,database systems, reusability, extensibility, robustness.

Subject :	**OBJECT ORIENTED METHODOLOGY (Practical)**
Code:	**BECME405P**
Sr. No.	Course Outcome
BECME405P.1	Define basic terms necessery for modeling computer systems.
BECME405P.2	Collect requirements and prepare their scenarios.
BECME405P.3	Prepare diagrams by UML.
BECME405P.4	Prepare and use of design patterns.
BECME405P.5	Prepare supporting documentation.

Subject :	**COMPUTER LAB-II (Practical)**
Code:	**BECME406P**
Sr. No.	Course Outcome
BECME406P.1	Code and compile COBOL programs with no syntax errors.
BECME406P.2	Use coding techniques commonly used to solve routine business problems.
BECME406P.3	Analyze program specifications and design accurate and efficient COBOL programs to meet those specifications.

5th Semester
Course Outcome

Subject :	**THEORY OF COMPUTATION (Theory)**
Code:	**BECME501T**
Sr. No.	Course Outcome

BECME501T.1	Understand Finite State Systems, Properties and limitations of Finite State machines, Basic Definitions, Non-Deterministic finite automata (NDFA).
BECME501T.2	Define Regular Expressions, Identities, Regular languages and finite automata, Arden theorem: Equivalence of finite automata and Regular Expressionsand be able to understand Context free and Context sensitive grammar, Parse trees, Ambiguity in CFG.
BECME501T.3	Analyze design of PDA and will become familiar with Deterministic and Non- Deterministic Turing Machines, Design of TM, Universal TM, Halting problem of TM. Permutations and Combinations.
BECME501T.4	Find the various solutions of Recursive and non-recursive languages.

Subject :	**COMPUTER ARCHITECTURE ORGANIZATION(Theory)**
Code:	**BECME502T**
Sr. No.	Course Outcome
BECME502T.1	Recognize the central ideas underlying the discipline of computer system. Ability to calculate arithmatic and floating point values.
BECME502T.2	Explain and Compare the representation of data, addressing modes, instructions sets for a computer system.
BECME502T.3	Apply the knowledge of Cache memory to increase the performance of Computer System. Discuss the issues and design tradeoffs in designing computer architecture and components.
BECME502T.4	Justify the knowledge of parallel, pipelined, superscalar, and RISC/CISC architectures. Choose recent technologies in computer architecture.

Subject :	**TCP/IP AND INTERNET (Theory)**
Code:	**BECME503T**
Sr. No.	Course Outcome
BECME503T.1	Subnets using IP classes B and C,about TCP/IP protocols, ports, sockets, and data encapsulation.Describe the process of packet fragmentation and reassembly,able to explain the key features and functions of TCP and UDP.
BECME503T.2	Wireshark to identify ICMP request and reply packets and the DHCP discovery process.
BECME503T.3	Ability to explain DNS queries, name resolution, zone data transfers and reverse DNS queries.
BECME503T.4	Ability to describe how basic routing works including the use of routing protocols.

Subject :	**TCP/IP AND INTERNET (Practical)**
Code:	**BECME503P**
Sr. No.	Course Outcome
BECME503P.1	Develop knowledge to implement client server applications.
BECME503P.2	Develop skills in UNIX socket programming.
BECME503P.3	Develop skills to use simulation tools.
BECME503P.4	Analyze the performance of network protocols.
BECME503P.5	Analyze the network traffic.

Subject :	**COMPUTER GRAPHICS (Theory)**
Code:	**BECME504T**
Sr. No.	Course Outcome
BECME504T.1	Understand the basics of computer graphics, different graphics systems and applications of computer graphics. Implement the various algorithms for scan conversion and filling of basic objects and their comparative analysis.
BECME504T.2	Use composite geometric transformations on original and clipped graphics objects in 2D and 3D.
BECME504T.3	Understand the techniques for improving the object appearance with the help of clipping objects outside the view and filling relevant parts of the area.
BECME504T.4	Explore projections and visible surface detection techniques for display of 3D scene on 2D screen and about different color domains and animation techniques.

Subject :	**COMPUTER GRAPHICS (Practical)**
Code:	**BECME504P**
Sr. No.	Course Outcome

BECME504P.1	Explain the working of Input and Output devices for graphics.
BECME504P.2	Explain about graphics primitives and work with coordinate spaces, co-ordinate conversion, and transformations of graphics objects.
BECME504P.3	Demonstrate 2D & 3D geometrical transformations using modern tools.
BECME504P.4	Explain various 3D projections and current models for surfaces.
BECME504P.5	Make use of the color and transformation techniques for various applications.

Subject :	**INDUSTRIAL EONOMICS AND ENTERPRENURSHIP DEVELOPMENT (Thoery)**
Code:	**BECME505T**
Sr. No.	Course Outcome
BECME505T.1	Be able to explain how a business as well as leadership,organaizing,strategic planning and management control functions in an industrial organization.
BECME505T.2	Be able to understand market structure ,pricing strategies in that situation and business cycle.
BECME505T.3	Be able to understand functions of central & commercial banks , FDI and relationship between public & private firm in business.
BECME505T.4	Be able to understand significance of enterpreneurship ,economic growth and application of engineering skills entrepreneurial activities.
BECME505T.5	Be able to understand sources of finance in industry,financial institutions & methods of taxation and tax benefits.
BECME505T.6	Be able to understand small scale industries ,its sickness,technical consultancy organizatios for SSI and Government policies for small scale entreprises.

Subject :	**COMPUTER LAB-III(Practical)**
Code:	**BECME506P**
Sr. No.	Course Outcome
BECME506P.1	Identify classes, objects, members of a class and the relationships among them for aspecific problem.
BECME506P.2	Develop GUI applications to handle events.
BECME506P.3	Develop client server based applications.
BECME506P.4	Design, develop, test and debug Java programs using object-oriented principles inconjunction with development tools including integrated development environments.

6th Semester
Course Outcome

Subject :	**SYSTEM SOFTWARE (Thoery)**
Code:	**BECME601T**
Sr. No.	Course Outcome
BECME601T.1	Understand the basics of real time systems and familiar with the issues and challenges in the embedded system design.
BECME601T.2	Differentiate between the host and target machine and understand the release time, deadline and timing constraints with issues involved in real time system design.
BECME601T.3	Understand the structure of RTOS its properties together with task management with multi-task scheduling algorithms. And also able to familiar with the capabilities of commercially available RTOS like VxWorks and RT Linux etc
BECME601T.4	Understand fault types and error containment zone with the concepts of hardware and software redundancy. The students will be able to familiar with the characteristics of real time languages.

Subject :	**DESIGN AND ANALYSIS OF ALGORITHMS (Thoery)**
Code:	**BECME602T**
Sr. No.	Course Outcome
BECME602T.1	Analyze and compare complexity for different types of algorithms for different types of problems and apply mathematical preliminaries to the analyses and design stages of different types of algorithms.
BECME602T.2	Choose among different types of data structures the best one for different types of problems and recognize the general principles and good algorithm design techniques for developing efficient computer algorithms. Familiarizing students with specific algorithms for a number of important computational problems like sorting, searching, and graphs, etc.
BECME602T.3	Decide on the suitability of a specific algorithm design technique for a given problem.

BECME602T.4	Design efficient algorithms for new situations, using as building blocks the techniques learned and apply algorithm design techniques to solve certain Np complete problems.

Subject :	**DESIGN AND ANALYSIS OF ALGORITHMS (Practical)**
Code:	**BECME602P**
Sr. No.	Course Outcome
BECME602P.1	Identify the problem given and design the algorithm using various algorithm design techniques.
BECME602P.2	Implement various algorithms in a high level language.
BECME602P.3	Analyze the performance of various algorithms.
BECME602P.4	Compare the performance of different algorithms for same problem.

Subject :	**DATABASE MANAGEMENT SYSTEM (Theory)**
Code:	**BECME603T**
Sr. No.	Course Outcome
BECME603T.1	Ability to understand basic concept, physical structure and architecture of the database to handle data.
BECME603T.2	Students would be able to construct queries using SQL and to write relational algebra expression for queries.
BECME603T.3	Ability to normalize the database and to become familiar with basic database storage structure and access techniques.
BECME603T.4	Students would clearly understand the transaction processing system , Concurrency control and distributed database.

Subject :	**DATABASE MANAGEMENT SYSTEM (Practical)**
Code:	**BECME603P**
Sr. No.	Course Outcome
BECME603P.1	Acquire knowledge of handling large volume of data.
BECME603P.2	Acquire skills to deal with Real life database implementation.
BECME603P.3	Response off faster queries and serve as many users as possible concurrently.
BECME603P.4	Fit with any Database project in industry after completion of degree.

Subject :	**SOFTWARE ENGINEERING & PROJECT MANAGEMNET (Theory)**
Code:	**BECME604T**
Sr. No.	Course Outcome
BECME604T.1	Identify and adopt the life cycle of software development process.
BECME604T.2	Demonstrate, evaluate and interpret the information sources for the development of software systems.
BECME604T.3	Interpret and be familiar with the role and responsibilities of the professional software‘s & ethics to adopt and solve software engineering product development related problems.
BECME604T.4	Design and analyze the skills to solve problems and provide their solutions using appropriate methods of analysis and design.
BECME604T.5	Design different testing mechanisms for achieving quality control and quality assurance for large scale software systems.
BECME604T.6	Evaluate and apply appropriate cost estimations techniques for development of software.

Subject :	**SOFTWARE ENGINEERING & PROJECT MANAGEMNET (Practical)**
Code:	**BECME604P**
Sr. No.	Course Outcome
BECME604P.1	Identify project requirements, author a formal specification, estimate and schedule tasks involved in project development.
BECME604P.2	Apply design principles during development of system.
BECME604P.3	Ensure quality of software by implementing testing methods.

Subject :	**FUNCTIONAL ENGLISH(Theory)**
Code:	**BECME605T**
Sr. No.	Course Outcome
BECME605T.1	To build the self confidence to face competitive examinations like GATE/TOFEL/CAT/MAT etc.
BECME605T.2	To use the functional grammar to strengthen their writing skills.
BECME605T.3	To acquire language skills required to write their Reviews/ Projects/Reports.

BECME605T.4	To organize their thoughts in English in research and projects activities.
BECME605T.5	To face job interviews more confidentially.

Subject :	**MINI PROJECT & INDUSTRIAL VISIT(Practical)**
Code:	**BECME606P**
Sr. No.	Course Outcome
BECME606P.1	Acquire practical knowledge within the chosen area of technology for project development
BECME606P.2	Identify, analyze, formulate and handle programming projects with a comprehensive and systematic
BECME606P.3	Contribute as an individual or in a team in development of technical projects
BECME606P.4	Develop effective communication skills for presentation of project related activities
BECME606P.5	Prepare a documentation on developed project
BECME606P.6	Understand the conferences & Jornals paper Format.

7th Semester
Course Outcome

Subject :	**OPERATING SYSTEM (Theory)**
Code:	**BECME701T**
Sr. No.	Course Outcome
BECME701T.1	Understand process concept and process scheduling.
BECME701T.2	Analyze scheduling algorithm and formulate solution for crital section problem.
BECME701T.3	Describe system model for deadlock. Methods for handling deadlocks and memory management strategies.
BECME701T.4	Define file, directory and learn various Access methode and implementation and learn Case Studies of Linux Operating System.

Subject :	**ADVANCED MICROPROCESSORS & MICROCONTROLLERS (Theory)**
Code:	**BECME702T**
Sr. No.	Course Outcome
BECME702T.1	An ability to apply mathematical foundations, algorithmic principles and computer science theory in the modeling and design, computer based system in a way that demonstrates comprehension of the trade offs involve in design choices.
BECME702T.2	An ability to apply design and development principles in the construction of software systems of varying complexity.
BECME702T.3	An ability to use techniques, skills and modern engineering tools necessary for engineering practice, and an ability to communicate effectively.

Subject :	**ADVANCED MICROPROCESSORS & MICROCONTROLLERS (Practical)**
Code:	**BECME702P**
Sr. No.	Course Outcome
BECME702P.1	State the internal organization of some popular microprocessors (8086,8088)/microcontrollers (8051, PIC).
BECME702P.2	Understand the impact of microprocessor based system in process of automation.
BECME702P.3	Apply knowledge of soft skill and other resources to design automated system with programing module.
BECME702P.4	Discriminate the performance of pipe-lining (8086) and non-pipe-lining (8085) architecture microprocessor.
BECME702P.5	Conduct experiments for real time data collection by microprocessor based data acquisition system.
BECME702P.6	Design interfacing circuits of various devices with the microprocessor and microcontroller.

Subject :	**INFORMATION ASSURANCE AND NETWORK SECURITY (Theory)**
Code:	**BECME703T**
Sr. No.	Course Outcome
BECME703T.1	Undterstand various terms related to security,encryption and decrytion algorithm ,way to choose suitable ciphering algorithms according to the required security level,security goals,its aplications.
BECME703T.2	Use and cryptanalysis of various basics and modern encryption ,integrity providing algorithm.

BECME703T.3	Use different atrithmetic operations in order to get security at various point in the network,algorthm for authentication and access control.
BECME703T.4	Understand various protocols which provide security at various layers during communication,and issues related to security to operating system,database and programe and their solutions.

Subject :	**INFORMATION ASSURANCE AND NETWORK SECURITY (Practical)**
Code:	**BECME703P**
Sr. No.	Course Outcome
BECME703P.1	Understand the fundamental principles of access control models and techniques,authentication and secure system design.
BECME703P.2	Have a strong understanding of different cryptographic protocols and techniques and be able to use them.
BECME703P.3	Apply methods for authentication, access control, intrusion detection and prevention.
BECME703P.4	Indentify and mitigate software security vulnerabilities in existing systems.

Subject :	**ELECTIVE-I : DATA WAREHOUSING & MINING (Theory)**
Code:	**BECME704T(iii)**
Sr. No.	Course Outcome
BECME704T(iii).1	To understand the concept of Data Mining, Data Warehouse and Data Marts.
BECME704T(iii).2	Assess raw input data and apply data pre-processing techniques, generalization techniques and data characterization techniques to provide suitable input for a range of data mining algorithms.
BECME704T(iii).3	Identify Associations in large databases using different techniques.
BECME704T(iii).4	Differentiate various classification and clustering techniques.
BECME704T(iii).5	Analyze how data mining techniques can be applied to complex data objects like spatial data and web mining.

Subject :	**ELECTIVE-II: WEB TECHNOLOGIES (Theory)**
Code:	**BECME705T(ii)**
Sr. No.	Course Outcome
BECME705T(ii).1	Learn the basic concepts of networks, internet, its history, applications and fundamentals of internet based protocols used like HTTP, IP,TCP etc. He will also be acquainted with the concepts of Subnetting, Supernetting, Web Browser details etc.
BECME705T(ii).2	Learn the working of internet terminologies like searching fundamentals and its types on internet, Telnet, Email, Chat Servers,FTP and Net Meeting etc. He will also have hands on basics and advanced HTML concepts like lists,styling, mark-up etc. and learn the need and basics of CSS and its design considerations.
BECME705T(ii).3	Understand difference between client side and server side scripting, the basics of Javascript, Event Handling, the concepts of DOM etc.
BECME705T(ii).4	Understand topics such as cookies, hidden fields etc. and various server side technologies like ASP/JSP, the concept of forms and its processing, input output operations on WWW and basics of delivering multimedia over web.

Subject :	**SEMINAR ON PROJECT (Practical)**
Code:	**BECME706P**
Sr. No.	Course Outcome
BECME706P.1	Deliver effective presentations in contexts that may require power point, extemporaneous or impromptu
BECME706P.2	Demonstrate both oral and written work in a grammatically accurate and rhetorically engaging style.
BECME706P.3	Conceive, arrange, and articulate ideas logically and clearly.
BECME706P.4	Design and develop Technical reports.

8th Semester
Course Outcome

Subject :	**UNIX & SHELL PROGRAMMING (Theory)**
Code:	**BECME801T**

Sr. No.	Course Outcome
BECME801T.1	Understand basic concepts of UNIX Operating System, its kernel and different subsystems of kernel, types of shells.
BECME801T.2	Understand process Control subsystem, its State diagram, types of scheduling and memory management policies.
BECME801T.3	Execute various types of commands on the standard shell viz. basic commands, directory and file related, pipe and filter related, process related, user communicationrelated and the system administration related commands.
BECME801T.4	Understand how to work on the standard editor and write shell scripts using this.

Subject :	**UNIX & SHELL PROGRAMMING (Practical)**
Code:	**BECME801P**
Sr. No.	Course Outcome
BECME801P.1	able to run various UNIX commands on a standard UNIX/LINUX Operating system (We will be using Ubuntu flavor of the Linux operating system).
BECME801P.2	able to run C / C++ programs on UNIX.
BECME801P.3	able to do shell programming on UNIX OS.
BECME801P.4	able to understand and handle UNIX system calls.

Subject :	**DISTRIBUTED SYSTEMS AND GRID COMPUTING (Theory)**
Code:	**BECME802T**
Sr. No.	Course Outcome
BECME802T.1	To gain a clear understanding of the concepts that underlie distributed computing systems along with characteristics, design and implementation issues.
BECME802T.2	To learn Time and Global states, Distributed debugging and Distributed Mutual Exclusion.
BECME802T.3	To learn design issues of file systems, Design and implementation issues of distributed shared memory, CORBA Model.
BECME802T.4	Learn various Grid Computing Models & protocols, Message Passing Interface (MPI) standards, Cloud Computing Models, Service Models & Cloud Architecture.

Subject :	**DISTRIBUTED SYSTEMS AND GRID COMPUTING (Practical)**
Code:	**BECME802P**
Sr. No.	Course Outcome
BECME802P.1	To understand and explore the concepts client server communication in distributed system.
BECME802P.2	To understand and explore the concepts with programming of RPC mechanism.
BECME802P.3	To demonstrate the general concepts on Cloud computing and grid computing.
BECME802P.4	To make use of the Cloud Toolkit.

Subject :	**ELECTIVE-III : WIRELESS COMMUNICATION & MOBILE COMPUTING (Theory)**
Code:	**BECME803T(i)**
Sr. No.	Course Outcome
BECME803T(i).1	Understand the basics wireless communication networks and knowledge about GSM cellular concept along with cellular systems from 1G TO 3G,wireless 4G systems.
BECME803T(i).2	Understand the fundamentals of cellular communication as hexagonal cell geometry co channel interface,cellular system design,sectoring using directional antennas and different spread spectrum techniques.
BECME803T(i).3	Have an understanding of the basic principels channel allocation and Handoffs.
BECME803T(i).4	Gain knowledge and awareness of the technologies using TDMA ,CDMA and how intelligent cell concept is usefull in in-building -communicaion. Mobile technologies and its computing techniques.

Subject :	**ELECTIVE-IV : MULTIMEDIA SYSTEM (Theory)**
Code:	**BECME804T(iii)**
Sr. No.	Course Outcome
BECME804T(iii).1	This course is designed to develop fundamental concepts of applications of multimedia and their types.

BECME804T(iii).2	Use composite geometric transformations on original and clipped graphics objects in multimedia in 2D and 3D.
BECME804T(iii).3	Understand the techniques for improving the object appearance with the help of clipping objects outside the view and filling relevant parts of the area.
BECME804T(iii).4	Explore projections and visible surface detection techniques for display of 3D scene on 2D screen.

Subject :	**PROJECT (Practical)**
Code:	**BECME805P**
Sr. No.	Course Outcome
BECME805P.1	Demonstrate both oral and written work in a grammatically accurate and rhetorically engaging style.
BECME805P.2	Demonstration of Project Implemention developed in different programming Languages
BECME805P.3	To publish research work on reputed Journals & conferenes.

Department of Electronics & Communication Engineering

3rd Semester
Course Outcome

Subject :	**APPLIED MATHEMATICS- III (Theory)**
Code:	**BEENE301T**
Sr. No.	Course Outcome
BEENE301T.1	Student can identify Laplace transforms & inverse Laplace transforms of various types of function, its properties and apply it to solve differential equation and are able to use in engineering Problems.
BEENE301T.2	Students are competent to work out the Fourier series representation of a periodic function in both exponential and sine-cosine forms and to solve partial differential equation and use Fourier transforms and its inverse in practical applications.
BEENE301T.3	Student can find extreme values of functionals using Euler's eq. and also apply knowledge to solve Isoperimetric problems and boundary value problems.
BEENE301T.4	Student understand analytic function of a complex variable and are able to apply Cauchy integral theorem and residue theorem to solve contour integrations

Subject :	**ELECTRONIC DEVICES AND CIRCUITS (Theory)**
Code:	**BEECE302T**
Sr. No.	**Course Outcome**
BEECE302T.1	This subject will give an overview of various semiconductor devices.
BEECE302T.2	At the end of this course, the students will be able to analyze and design amplifier circuits,oscillators and filter circuits employing BJT, FET devices.

Subject :	**ELECTRONIC DEVICES AND CIRCUITS (Practical)**
Code:	**BEECE302P**
Sr. No.	**Course Outcome**
BEECE302P.1	The students will get the basic concepts of different semiconductor components.
BEECE302P.2	They will be able to understand the use of semiconductor devices in different electronic circuits.
BEECE302P.3	They will be able to calculate different performance parameters of transistors.
BEECE302P.4	They will be able to plot and study the characteristics of semiconductor devices.

Subject :	**ELECTRONICS MEASUREMENT AND INSTRUMENTATION (Theory)**
Code:	**BEECE303T**
Sr. No.	**Course Outcome**
BEECE303T.1	Explain basic concepts and definitions in measurement.
BEECE303T.2	Explain the operation and design of electronic instruments for parameter measurement and operation of different transducer.

BEECE303T.3	Explain the operation of oscilloscopes and the basic circuit blocks in the design of an oscilloscope.
BEECE303T.4	Explain the circuitry and design of various function generators.

Subject :	**ELECTRONICS MEASUREMENT AND INSTRUMENTATION (Practical)**
Code:	**BEECE303P**
Sr. No.	**Course Outcome**
BEECE303P.1	The students will be able to measure the resistance by various methods.
BEECE303P.2	They will be able to use the various measuring instruments such as CRO, Function generator, Spectrum analyzer etc in effective manner.
BEECE303P.3	They will be able to measure various physical parameters by using different techniques.

Subject :	**OBJECT ORIENTED PROGRAMMING & DATA STRUCTURE (Theory)**
Code:	**BEECE304T**
Sr. No.	**Course Outcome**
BEECE304T.1	At the end of this course, the students will be able to analyze and design amplifier circuits,oscillators and filter circuits employing BJT, FET devices.
BEECE304T.2	Explain the basic data structures and algorithms for manipulating them.
BEECE304T.3	Implement these data structures and algorithms in the C++ language.
BEECE304T.4	Integrate these data structures and algorithms in larger programs.
BEECE304T.5	Code and test well-structured programs of moderate size using the C++ language
BEECE304T.6	Apply principles of good program design to the C++ language.

Subject :	**OBJECT ORIENTED PROGRAMMING & DATA STRUCTURE (Practical)**
Code:	**BEECE304P**
Sr. No.	**Course Outcome**
BEECE304P.1	To understand the concept of object oriented programming and develop skills in C++ Language.
BEECE304P.2	Access how the choice of data structures and algorithm design methods impacts the performance of programs.
BEECE304P.3	To Choose the appropriate data structure and algorithm design method for a specified application.
BEECE304P.4	Write programs using "C++ Language".

Subject :	**NETWORK ANALYSIS AND SYNTHESIS (Theory)**
Code:	**BEECE305T**
Sr. No.	**Course Outcome**
BEECE305T.1	Students will be able to analyze the various electrical and electronic networks using the techniques they learn.
BEECE305T.2	Students will be able to construct a circuit to suit the need.

4th Semester

Course Outcome

Subject :	**APPLIED MATHEMATICS- IV (Theory)**
Code:	**BEECE401T**
Sr. No.	**Course Outcome**
BEECE401T.1	The course will prepare student to understand probability theory and use it for analysis of data. Understand the basic concepts of probability random variables probability distribution and joint probability distribution.

BEECE401T.2	Students will be able to calculate the mean, median, mode, range, and standard deviation for a given data set and also use method of moments and moment generating functions.
BEECE401T.3	The student will be able to: 1. Collect and analyze the data statistically. 2. Describe sampling distributions of sample means and sample proportions using the appropriate distribution, e.g normal, binomial, etc. Also understand the central limit theorem.

Subject :	**POWER DEVICES AND MACHINES (Theory)**
Code:	**BEECE402T**
Sr. No.	**Course Outcome**
BEECE402T.1	Understand the basics of different components used in Power Electronics.
BEECE402T.2	Understand the working and characteristics of different power devices along with their applications in Electronic circuits.
BEECE402T.3	Understand the concept of AC-DC converters, Choppers, Inverters which are widely used in industries.
BEECE402T.4	Understand the different AC/DC machines and their speed control methods.

Subject :	**POWER DEVICES AND MACHINES (Practical)**
Code:	**BEECE402P**
Sr. No.	**Course Outcome**
BEECE402P.1	Understand the working and nature of characteristics of different power components used in Power Devices.
BEECE402P.2	Be able to calculate performance parameters for different devices.
BEECE402P.3	Be able to perform different tests on Transformers and motors for calculating the losses, efficiency, regulation etc.
BEECE402P.4	Understand the concept of starters used for starting AC/DC motors.
BEECE402P.5	Understand different speed control methods for motors.

Subject :	**ELECTROMAGNETIC FIELDS (Theory)**
Code:	**BEECE403T**
d Elements used fo	**Course Outcome**
BEECE403T.1	Understand the concepts of Electric, Magnetic and Electromagnetic fields required to understand the concepts of Electronic Communication.
BEECE403T.2	Understand the different coordinate system for mathematical analysis of Electromagnetic Engineering.
BEECE403T.3	Understand the different theorems and their use in Electromagnetic field.
BEECE403T.4	Understand the use of waveguides for the transmission of electromagnetic waves at higher frequencies.
BEECE403T.5	Understand the basic concept of radiation annd elements used for radiation along with the basic terminologies.

Subject :	**DIGITAL CIRCUITS AND FUNDAMENTAL OF MICROPROCESSOR(Theory)**
Code:	**BEECE404T**
Sr. No.	**Course Outcome**
BEECE404T.1	At the end of course the student will be able to analyze, design, and evaluate digitalcircuits of medium complexity, that are based on SSIs, MSIs, and programmable logic devices.

Subject :	**DIGITAL CIRCUITS AND FUNDAMENTAL OF MICROPROCESSOR(Practical)**
Code:	**BEECE404P**
Sr. No.	**Course Outcome**
BEECE404P.1	Understand the fundamental of basic gates and their use in combinational and sequential circuits.

BEECE404P.2	Understand the use of digital components as a switching elements.
BEECE404P.3	Be able to generate basic arithmetic and logical circuits required in microcomputer systems.

Subject :	**SIGNAL AND SYSTEM(Theory)**
Code:	**BEECE405T**
Sr. No.	**Course Outcome**
BEECE405T.1	Get knowledge about different types of signals and systems used in communication Electronics.
BEECE405T.2	Understand the concept of probability and its use in communication system.
BEECE405T.3	Be able to embed the use of fourier series and fourier transform for feature extraction of different electronic signals.
BEECE405T.4	Understand different coding schemes and able to apply selective coding scheme for the application needed.
BEECE405T.5	Understand the different analog and digital modulation schemes.

Subject :	**ENVIRONMENTAL STUDIES(Theory)**
Code:	**BEECE406T**
Sr. No.	**Course Outcome**
BEECE406T.1	Recognize major concepts in environmental sciences and demonstrate in-depth understanding of the environment.
BEECE406T.2	Develop analytical skills, critical thinking, and demonstrate problem-solving skillS using scientific technique.

5th Semester

Course Outcome

Subject :	**Antenna & Wave Propagation(Theory)**
Code:	**BEECE501T**
Sr. No.	**Course Outcome**
BEECE501T.1	Describe transmission line characteristics.
BEECE501T.2	Calculate antenna parameters (radiation pattern, beam width, lobes, directivity, gain, impedance, efficiency, polarization).
BEECE501T.3	Analyze wire antennas (monopoles, dipoles, and loops).
BEECE501T.4	Analyze and design antenna arrays.
BEECE501T.5	Describe the operation of broadband and traveling wave antennas.
BEECE501T.6	Describe the operation of aperture and reflector antennas.
BEECE501T.7	Analyze and design Microstrip antennas.

Subject :	**MICROPROCESSOR AND MICROCONTROLLERS (Theory)**
Code:	**BEECE502T**
Sr. No.	**Course Outcome**
BEECE502T.1	To study fundamentals of microprocessor and microcontroller systems.
BEECE502T.2	To study architecture of microprocessor & to understand the concept of memory organization, stack memory, Assembly language programming.
BEECE502T.3	To study different interrupt techniques.
BEECE502T.4	To study interfacing of microprocessor & microcontroller with different peripheral devices.

Subject :	**MICROPROCESSOR AND MICROCONTROLLERS (Practical)**
Code:	**BEECE502P**

Sr. No.	Course Outcome
BEECE502P.1	Demonstrate the concept of Assembly languages structure and programming.
BEECE502P.2	Interface various peripherals with 8086 and 8051.
BEECE502P.3	Simulate the programs on different software platforms.

Subject :	ANALOG CIRCUIT AND DESIGN (Theory)
Code:	BEECE503T
Sr. No.	Course Outcome
BEECE503T.1	To study the basic characteristic, construction, open loop & close loop operations of Op-Amp.
BEECE503T.2	To study linear and non linear applications of Op-Amp.
BEECE503T.3	To study the design of Electronic Circuits for Oscillator, Multivibrator and Active Filters .
BEECE503T.4	To enable students to design regulated power supply using regulated ICs .

Subject :	ANALOG CIRCUIT AND DESIGN (Practical)
Code:	BEECE503P
Sr. No.	Course Outcome
BEECE503P.1	To learn about various types of analog systems.
BEECE503P.2	To study the practical aspects of linear and non-linear applications of OP-AMP.
BEECE503P.3	To design the oscillators using OP-AMP and Transistors.
BEECE503P.4	To study frequency response of different circuits based on operational amplifier.

Subject :	COMMUNICATION ELECTRONICS (Theory)
Code:	BEECE504T
Sr. No.	Course Outcome
BEECE504T.1	To study the basic concept of communication and different modulation system based on basic parameters.
BEECE504T.2	To study the concept of noise, properties & its effects.
BEECE504T.3	To study the AM, FM, PM process & compute modulation Index.
BEECE504T.4	To study the fundamentals of AM and FM Receivers.
BEECE504T.5	To develop knowledge about fundamentals of Broadband Communication Systems.

Subject :	COMMUNICATION ELECTRONICS (Practical)
Code:	BEECE504P
Sr. No.	Course Outcome
BEECE504P.1	Demonstrate different modulation techniques used in electronic communication system.
BEECE504P.2	Use the modulation techniques and modern communication tools necessary for various engineering applications.
BEECE504P.3	Evaluate fundamental communication system parameters, such as bandwidth power, signal to quantization noise ratio, data rate etc.

6th Semester

Course Outcome

Subject :	TELECOMMUNICATION SWITCHING SYSTEMS(Theory)
Code:	BEECE601T
Sr. No.	Course Outcome
BEECE601T.1	Describe the need for switching systems and their evolution from analogue to digital.
BEECE601T.2	Describe the Public Switched Telephone Network.
BEECE601T.3	Describe private networks.
BEECE601T.4	Describe integrated networks.

Subject :	DIGITAL SIGNAL PROCESSING (Theory)
Code:	BEECE602T
Sr. No.	Course Outcome
BEECE602T.1	Represent discrete-time signals analytically and visualize them in the time domain.
BEECE602T.2	Meet the requirement of theoretical and practical aspects of DSP with regard to sampling and reconstruction.
BEECE602T.3	Design and implement digital filter for various applications.
BEECE602T.4	Describe the various transforms for analysis of signals and systems.
BEECE602T.5	Describe the concept of multi rate signal processing and how to apply it for the wavelet transform.

Subject :	DIGITAL SIGNAL PROCESSING (Practical)
Code:	BEECE602P
Sr. No.	Course Outcome
BEECE602P.1	Analyze and process the signals in the discrete domain.
BEECE602P.2	Design the filters to suit requirements of specific applications.
BEECE602P.3	Apply the techniques, skills, and modern engineering tools like MATLAB and digital processors.

Subject :	CONTROL SYSTEM ENGINEERING(Theory)
Code:	BEECE603T
Sr. No.	Course Outcome
BEECE603T.1	Analyze various control systems.
BEECE603T.2	Represent the mathematical model of a system.
BEECE603T.3	Determine the response of different order systems for various step inputs.
BEECE603T.4	Analyze the stability of the system using Root locus. Bode plot, Nyquist plot.
BEECE603T.5	Obtain transfer function of systems using signal flow graph.
BEECE603T.6	Apply the state variable approach in design.

Subject :	DIGITAL COMMUNICATION(Theory)
Code:	BEECE503T
Sr. No.	Course Outcome
BEECE503T.1	Explain the working principles of basic building blocks of a digital communication system.
BEECE503T.2	special Gaussian and Rayleigh distributions.
BEECE503T.3	Explain receiver techniques for detection of a signal in AWGN channel
BEECE503T.4	Describe digital modulation techniques.
BEECE503T.5	Demonstrate the concept of coding and decoding techniques.
BEECE503T.6	Model digital communication systems using appropriate mathematical techniques.
BEECE503T.7	Describe spread spectrum analysis.

Subject :	DIGITAL COMMUNICATION(Practical)
Code:	BEECE503P
Sr. No.	Course Outcome
BEECE503P.1	Describe the concept of the digital communication based design for testing and analyze the circuits.
BEECE503P.2	Design and conduct experiments for testing digital communication circuits and systems.
BEECE503P.3	Analyze the different coding technique for design and modeling of digital communication Identify, formulate and solve digital communication circuits and systems problems.

7th Semester

Course Outcome

Subject :	DSP PROCESSOR & ARCHITECTURE(Theory)
Code:	BEECE701T
Sr. No.	Course Outcome
BEECE701T.1	To describe the detailed architecture, addressing mode, instruction sets of TMS320C5X.
BEECE701T.2	To write program of DSP processor.
BEECE701T.3	To design & implement DSP algorithm using code composer studio.
BEECE701T.4	To design decimation filter and interpolation filter.

Subject :	DSP PROCESSOR & ARCHITECTURE(Practical)
Code:	BEECE701P
Sr. No.	Course Outcome
BEECE701P.1	Understand the architecture of TMS and Motorola Processors.
BEECE701P.2	Implement different processing algorithms on DSP processors.
BEECE701P.3	Design different types of filters and study their characteristics.

Subject :	TELEVISION AND VIDEO ENGINEERING (Theory)
Code:	BEECE702T
Sr. No.	Course Outcome
BEECE702T.1	Analyze and understand colour T.V. System.
BEECE702T.2	Understand fundamental techniques of Different T.V. standards.
BEECE702T.3	Understand Advanced T.V. Technology.
BEECE702T.4	Understand different video recording, display and its consumer application.

Subject :	TELEVISION AND VIDEO ENGINEERIN(Practical)
Code:	BEECE702P
Sr. No.	Course Outcome
BEECE702P.1	Study and classify the concept of troubleshoot and repair.
BEECE702P.2	Develop an understanding of electronics, mechanical and environmental factors involved in maintaining television equipment.
BEECE702P.3	Analyze and synthesize TV Pictures, Composite Video Signal, TV Receiver Picture Tubes .

Subject :	OPTICAL COMMUNICATION (Theory)
Code:	BEECE703T
Sr. No.	Course Outcome
BEECE703T.1	Learn the basic elements of optical fiber.
BEECE703T.2	Understand the different kinds of losses, signal distortion in optical wave guides & other signal degradation factors.
BEECE703T.3	Classify various optical source materials, LED structures, LASER diodes.
BEECE703T.4	Learn the fiber optic receivers such as PIN, APD diodes, receiver operation & performance.
BEECE703T.5	Understand the operational principal of WDM, SONET, measurement of attenuation, dispersion, refractive index profile in optical fibers.

Subject :	Advanced Digital System Design (Theory)
Code:	BEECE704T
Sr. No.	Course Outcome
BEECE704T.1	Design of combinational & sequential circuit.
BEECE704T.2	Develop skilled VLSI front end designers .
BEECE704T.3	Implementation of digital system.
BEECE704T.4	Experimentation on Hardware /Software co-design.

Subject :	VLSI SIGNAL PROCESSING (Theory)
Code:	BEECE705T
Sr. No.	Course Outcome

BEECE705T.1	To model, simulate, verify the digital model with hardware description language.
BEECE705T.2	To design and prototype with programmable logic devices .
BEECE705T.3	To learn the modular design style to create large digital logic circuits.
BEECE705T.4	To create and simulate basic circuit modules (or macros) using VHDL.

8th Semester

Course Outcome

Subject :	**MICROWAVE & RADAR ENGINEERING(Theory)**
Code:	**BEECE801T**
Sr. No.	**Course Outcome**
BEECE801T.1	Understand the use of active and passive microwave devices.
BEECE801T.2	Analyze Different UHF components with the help of scattering parameter.
BEECE801T.3	Understand micro strip lines MIC design.
BEECE801T.4	Understand the use of different Klystrons.
BEECE801T.5	Analyze the different power distribution Tees.
BEECE801T.6	Analyze Scattering Matrix of different UHF components.
BEECE801T.7	Do research with capabilities in the design, development and manufacture of radar systems used in a wide spectrum of applications.
BEECE801T.8	Able to identify, formulate and model problems and find Radar engineering solutions based on a system approach.

Subject :	**MICROWAVE & RADAR ENGINEERING(Practical)**
Code:	**BEECE801P**
Sr. No.	**Course Outcome**
BEECE801P	Describe working of microwave bench.
BEECE801P	Measure power & VSWR of microwave component.
BEECE801P	Analyze the S-parameter of microwave component.

Subject :	**COMPUTER COMMUNICATION NETWORK(Theory)**
Code:	**BEECE802T**
Sr. No.	**Course Outcome**
BEECE802T.1	Understand the requirement of theoretical & practical aspect of computer network.
BEECE802T.2	Understand the network traffic in computer network.
BEECE802T.3	Describe various protocols used in network.
BEECE802T.4	Describe the concept of computer network security.
BEECE802T.5	Understand the different wired &wireless LAN stds.& Routers.

Subject :	**COMPUTER COMMUNICATION NETWORK(Practical)**
Code:	**BEECE802P**
Sr. No.	**Course Outcome**
BEECE802P.1	Understand and select various cables and connectors used for networking.
BEECE802P.2	Establish peer to peer computers as well as Local Area Network connectivity.
BEECE802P.3	Effectively use available networking tools in Computer Communication Network .

Subject :	**WIRELESS & MOBILE COMMUNICATION (Theory)**
Code:	BEECE803T
Sr. No.	**Course Outcome**
BEECE803T.1	Design a model of cellular system communication and analyze their operation and performance.
BEECE803T.2	Quantify the causes and effects of path loss and signal fading on received signal characteristics.
BEECE803T.3	To construct and analyze the GSM system

Subject :	**DIGITAL IMAGE PROCESSING (Theory)**
Code:	BEECE804T
Sr. No.	**Course Outcome**

BEECE804T.1	Have an appreciation of the fundamentals of Digital image processing including the topics of filtering, transforms and morphology, and image analysis and compression.
BEECE804T.2	Implement basic image processing algorithms in MATLAB.
BEECE804T.3	Have the skill base necessary to further explore advanced topics of Digital Image Processing.
BEECE804T.4	Make a positive professional contribution in the field of Digial Image Processing.

Subject :	**SATELLITE COMMUNICATION(Theory)**
Code:	BEECE805T
Sr. No.	**Course Outcome**
BEECE805T.1	Do research with capabilities in the design, development and manufacture of satellite communication systems used in a wide spectrum of applications.
BEECE805T.2	Experience real world experience from household appliances to sophisticated satellite communication, from electronic ignition to neural networks and signal processing chips & to integrate academic discipline with project-based engineering applications, classroom learning theory.
BEECE805T.3	Able for Acquisition of technical competence in specialized areas of Satellite Communication engineering.
BEECE805T.4	Able to identify, formulate and model problems and find Satellite Communication engineering solutions based on a system approach.

Department of Mechanical Engg.

3rd Semester
Course Outcome

Subject :	**Applied Mathematics-III (Theory)**
Code:	**BEME301T**
Sr. No.	**Course Outcome**
BEME301T.1	To explain the concept of Laplace transform, Fouriar series and Fouriar transform.
BEME301T.2	To Identify analytic function & can apply cauchy integral formula or residue theorm to solve complex integral.
BEME301T.3	To solve P.D.E and apply it for initial value problems and boundary value problems.
BEME301T.4	To extend the concept of matrices to eigen value & eigen vector and use it to solve various engineering problem.

Subject :	**KINEMATICS OF MACHINE (Theory)**
Code:	**BEME302T**
Sr. No.	**Course Outcome**
BEME302T.1	To understand the relationship between the geometry and the motions of the parts of a machine and estimate degree of freedom for various mechanism.
BEME302T.2	To study kinematic analysis of gears and gear trains, cams and linkages, graphical analysis of position, velocity and acceleration of mechanism.
BEME302T.3	To design the mechanisms to give desired motions and to study working of clutches, brakes & dynamometers.

Subject :	**Fluid Mechanics (Theory)**
Code:	**BEME303T**
Sr. No.	**Course Outcome**

BEME303T.1	To understand the behavior of fluids at rest or in motion and the subsequent effects of the fluids on the boundaries.
BEME303T.2	To gain conceptual understanding of fluids, fluid flows, their properties and various applications.
BEME303T.3	To develop analytical abilities related to fluid flows.
BEME303T.4	To be able to apply the analytical tools to solve different types of problems related to fluid & fluid flow.

Subject :	**MANUFACTURING PROCESS (Theory)**
Code:	**BEME304T**
BEME304T.1	To define and explain various types of patterns, pattern materials, pattern allowances and various types of sand moulds, moulding sand and moulding machines.
BEME304T.2	To explain various elements of gating system, various types of furnaces, their operations, various special casting processes and gating system.
BEME304T.3	To define and explain / classify various welding joints, gas cutting process, weldability of metals and various defects in welding joints.
BEME304T.4	To compare between hot and cold working of metals and explain the working of rolling, forging, extrusion and drawing operations.
BEME304T.5	Explain and classify various types of press working machines, their drive mechanisms, press working operations and types of dies.
BEME304T.6	Explain various methods of moulding and joining plastics.

Subject :	**MANUFACTURING PROCESS (Practical)**
Code:	**BEME304P**
BEME304P.1	To define and explain various types of patterns, pattern materials and pattern allowances and classify various moulding techniques
BEME304P.2	To Select / choose a particular method of casting for a given job.
BEME304P.3	To explain various operating parameters and components of cupola furnace.
BEME304P.4	To compare between hot and cold working of metals and explain the working of rolling, forging, extrusion and drawing operations.
BEME304P.5	To experiment with metal casting operation.

Subject :	**ENGINEERING METALLURGY (Theory)**
Code:	**BEME305T**
Sr. No.	**Course Outcome**
BEME305T.1	To understand the concepts of crystal structure, atomic structure of metals, imperfections, diffusion mechanisms and mechanism of plastic deformation,
BEME305T.2	To understand the equilibrium diagrams, time-temperature transformation curves and heat treatment processes.
BEME305T.3	To get the knowledge of phase diagrams which are useful for design and control of heat treating processes, various ferrous & non ferrous metals & alloys with engineering applications, non-destructive tests & powder metallurgy with applications.

Subject :	**ENGINEERING METALLURGY (Practical)**
Code:	**BEME305P**
BEME305P.1	To name, identify, demonstrate, examine and experiment with Metallurgical Microscope.

BEME305P.2	To define, classify, categorize ,analyze and compare crystal and metallographic structure of iron and its alloys due to heat treatments.
BEME305P.3	To choose, compare and make use of instruments to prepare specimen of plain carbon steel, Cast iron and nonferrous alloys to identify, compare and discussabout their application.
BEME305P.4	To find, apply, make use of instruments and apparatus to test the hardness of ferrous and nonferrous alloys.

Subject :	**MACHINE DRAWING (Practical)**
Code:	**BEME306P**
BEME306P.1	To understand the principles and requirements of machine & production drawings.
BEME306P.2	To learn various concepts of engg. Graphics like dimensioning, conventions and standards related to machine drawing to become professionally efficient.
BEME306P.3	To be able to draw & understand the moderate complex drawings of mechanical components and their assemblies.

Subject :	**SEMINAR (Practical)**
Code:	**BEME307P**
BEME307P.1	To develop an ability in student to work in actual working environment and to utilize technical resources.
BEME307P.2	To develop an ability in student to write technical documents and give oral presentations related to the work completed.

4th Semester

Course Outcome

Subject :	**APPLIED MATHEMATICS-IV (Theory)**
Code:	**BEME401T**
Sr. No.	**Course Outcome**
BEME401T.1	Evaluate the numerical solution of simultaneous and algebric equation, differentail equation and largest eigen values.
BEME401T.2	Explain concept of Z-transform and analyze the series solution for differentail equation.
BEME401T.3	Extend the concept of probability to solve Distribution and Expectation.

Subject :	**ENGINEERING THERMODYNAMICS (Theory)**
Code:	**BEME402T**
Sr. No.	**Course Outcome**
BEME402T.1	To understand the concept of thermodynamic, various laws of gases and various thermodynamic processes & cycles.
BEME402T.2	To study first law of thermodynamics and its application to evaluate open & closed systems, thermal components and devices.
BEME402T.3	To study second law of thermodynamics, entropy and its application to evaluate the performance of heat engine, heat pump, and refrigerator.
BEME402T.4	To study various steam properties, and analyze the various types of processes.
BEME402T.5	To study various types of gas power cycles and air standard cycles and their applications.

Subject :	**HYDRAULIC MACHINES (Theory)**
Code:	**BEME403T**
Sr. No.	**Course Outcome**
BEME403T.1	To understand practical applications of fluid.

BEME403T.2	To understand design parameters and performance characteristics of various hydraulic machines & devices.
BEME403T.3	To have a theorotical ground for calculation of various parameters of hydraullic machines.

Subject :	**HYDRAULIC MACHINES (Practical)**
Code:	**BEME403P**
Sr. No.	**Course Outcome**
BEME403P.1	To understand the performance of turbines and pumps and also learn to find out the hydraullic effiencies of these machines.
BEME403P.2	To varify the application of momentum principle through performing few exeperients in Lab.
BEME403P.3	To varify bernoullis equation and learn how to determine flow rate of fluid.

Subject :	**MACHINING PROCESSES (Theory)**
Code:	**BEME404T**
Sr. No.	**Course Outcome**
BEME404T.1	To understand the concept of theory of metal cutting, objectives of the various machine tools, constructional details and mechanisms involved in various machine tools.
BEME404T.2	To identify the machining parameters, different types of cutting tool materials, cutting fluids and their properties.
BEME404T.3	To study lathe, milling, shaper, slotter and planer machines.
BEME404T.4	To study grinding, drilling, boring and broaching machines.

Subject :	**MACHINING PROCESSES (Practical)**
Code:	**BEME404P**
Sr. No.	**Course Outcome**
BEME404P.1	To classify/distinguish between single and multiple cutting tools, explain and illustrate tool geometry of single point cutting tool, various forces acting on single point cutting tool.
BEME404P.2	To define specifications of Lathe, identify parts of Lathe and Shaper Machines, explain function and use of various accessories and attachments of Lathe and Shaper Machines.
BEME404P.3	To perform various operations on Lathe, Shaper and drilling Machines.
BEME404P.4	To perform gear cutting operations on milling machine.

Subject :	**MECHANICS OF MATERIAL (Theory)**
Code:	**BEME405T**
Sr. No.	**Course Outcome**
BEME405T.1	To be able to analyze different stresses, strains and deflections in a simple mechanical element under various loading and support conditions.
BEME405T.2	To understand the basic concepts involved in mechanics of materials, bending moment, shear force, stresses in beams, slope and deflection in beams under different loading and support conditions.
BEME405T.3	To understand torsional shear stress in shaft, crippling load in struts and columns.

Subject :	**MECHANICS OF MATERIAL (Practical)**
Code:	**BEME405P**
Sr. No.	**Course Outcome**
BEME405P.1	Experimentation and performance on universal testing machine to determine tensile, compression and shear strength.
BEME405P.2	Experiment on impact testing machine for different materials for determining impact strength.
BEME405P.3	Experiment on brinell hardness testing machine to determine the hardness of the material.
BEME405P.4	Experiment on Torsion test.

BEME405P.5	Experiment on deflection of beam (Simply supported beam) for determining slope and deflection.
BEME405P.6	Experiment on helical spring to determine the deflection of spring.
Subject :	**ENVIRONMENTAL STUDIES (Theory)**
Code:	**BEME406T**
Sr. No.	**Course Outcome**
BEME406T.1	Recognize major concepts in environmental sciences and demonstrate in-depth understanding of the environment.
BEME406T.2	Develop analytical skills, critical thinking, and demonstrate problem-solving skills using scientific techniques.

Subject :	**MINI PROJECT (Practical)**
Code:	**BEME407P**
Sr. No.	**Course Outcome**
BEME407P.1	To convert an idea or concept into a simple working physical model.
BEME407P.2	To learn regarding fabrication /construction of a simple mechanical or electro-mechanical working model using various manufacturing processes.

5th Semester

Course Outcome

Subject :	**Industrial Economics & Enterpreneurship Development (Theory)**
Code:	**BEME501T**
Sr. No.	**Course Outcome**
BEME501T.1	To understand different basic concepts, analysis of demand, its forecasting and elasticity, which help students to create new product.
BEME501T.2	To understand factors of production, laws of returns, costs, breaks even analysis and depreciation which helps students to justify a decision.
BEME501T.3	Students will become aware about inflation, deflation and its control measures market structure, concept and overview of stock market which helps students to evaluate markets.
BEME501T.4	Understanding the concepts of innovation and creativity, IPR and laws relating to it.
BEME501T.5	Understand the concept of enterprenuership, types of enterprenuers, achievement motivation, role of SSI. It helps students to employ better human resources.
BEME501T.6	Students will get knowledge of the preparation of project report and enterprenuerial support systems. It helps students to identify and recognize the use of resources.

Subject :	**DESIGN OF MACHINE ELEMENTS (Theory)**
Code:	**BEME502T**
Sr. No.	**Course Outcome**
BEME502T.1	To understand the basic machine element design which includes the procedure of design under various loading conditions.
BEME502T.2	To understand design of various mechanical joints, machine components such as shaft, keys, brakes clutches, power screws etc.
BEME502T.3	To learn spring design & pressure vessel design.

Subject :	**ADVANCED PRODUCTION PROCESSES (Theory)**
Code:	**BEME503T**
Sr. No.	**Course Outcome**
BEME503T	To understand the list of various Non conventional machining processes and can classify, select, compare, explain and know the applications of various Non conventional machining processes.
BEME503T	To learn advanced Joining Processes, Die Cutting Operations, Jig and Fixtures, Super - finishing operations & Machining centre.

Subject :	HEAT TRANSFER (Theory)
Code:	BEME504T
Sr. No.	Course Outcome
BEME504T.1	To learn the various modes of heat transfer and laws associated with it.
BEME504T.2	To distinguish between steady state and unsteady state heat transfer.
BEME504T.3	To be able to apply their knowledge of dimensional analysis to forced and free convection, also be able to analyse radiation with and without radiation shield.
BEME504T.4	To be able to analyse & design heat exchangers.

Subject :	HEAT TRANSFER (Practical)
Code:	BEME504P
Sr. No.	Course Outcome
BEME504P.1	Able to apply knowledge of heat transfer to solve thermal enginnering problems.
BEME504P.2	Able to design analyse and interpret heat transfer related data.
BEME504P.3	Able to identify, formulate and solve heat transfer related problems.
BEME504P.4	Able to evaluate the ammount of heat exchange for plane, cylindrical and spherical geometries and should be able to compare the performance of extended surfaces and heat exchangers.

Subject :	MECHANICAL MEASUREMENT & METROLOGY (Theory)
Code:	BEME505T
Sr. No.	Course Outcome
BEME505T.1	To study various measurement systems and their significance along with the characteristics and order of the instruments.
BEME505T.2	To understand various instruments for the measurement of different parameters.
BEME505T.3	To learn the selection & use of precision measuring instruments for various application.

Subject :	MECHANICAL MEASUREMENT & METROLOGY (Practical)
Code:	BEME505P
Sr. No.	Course Outcome
BEME505P.1	To analyze the relation between mechanical and electrical/electronic quantities in the process of determining static sensitivity and calibration and to analyze the sources and magnitude of errors introduced in measurements.
BEME505P.2	To define and explain measurement systems and understand the concepts of various measurement systems & standards with regards to realistic applications.
BEME505P.3	Describe functioning of force, speed, torque, pressure, strain and temperature measuring devices.
BEME505P.4	To get basics knowledge of Measurements, Metrology and Measuring devices.

Subject :	COMPUTER APPLICATION -I (Practical)
Code:	BEME506P
Sr. No.	Course Outcome
BEME506P.1	To solve engineering problems using computers with knowledge of C/C++ programming.
BEME506P.2	To write the programs for Numerical Methods & for problem solving in the area of Mechanical Engineering.
BEME506P.3	To understand the concept of OOPs and will get introduced with mathematical softwares.

Subject :	INDUSTRIAL VISIT (Practical)
Code:	BEME507P
Sr. No.	Course Outcome

BEME507P.1	To porovide practical exposure to students and to provide opportunities for acquiring knowledge regarding manufacturing and service industries/organizations and to acquaint them with industrial culture.
BEME507P.2	To be able to describe the usage of different technologies/ tools / concepts related to Design process, operation of various machines, mechanical drives, manufacturing processes, machining processes, various process equipments, production techniques, quality control, maintenance practices, automation in industries, management etc.

6th Semester

Course Outcome

Subject :	**ENERGY CONVERSION- I (Theory)**
Code:	**BEME601T**
Sr. No.	**Course Outcome**
BEME601T.1	To understand the the practical applications of thermodynamics.
BEME601T.2	To gain the knowledge of various components of the thermal power plant like boiler, nozzles, turbines and condensers and will be able to assess the performance of these components.

Subject :	**CONTROL SYSTEMS ENGINEERING (Theory)**
Code:	**BEME602T**
Sr. No.	**Course Outcome**
BEME602T.1	To familiarize with concepts related to the operation, analysis and stabilization of control systems.
BEME602T.2	To make understanding of various control systems and its stability analysis using analytical and graphical techniques.
BEME602T.3	To understand the concepts of Time Domain and Frequency Domain analysis of control system, Mathematical modeling and Transfer function of engineering systems.

Subject :	**OPERATIONS RESEARCH (Theory)**
Code:	**BEME603T**
Sr. No.	**Course Outcome**
BEME603T.1	To know a formal quantitative approach to problem solving.
BEME603T.2	To find some widely used mathematical models and have tools that students can use to solve management problems.
BEME603T.3	To gain proficiency with tools for optimization, simulation.

Subject :	**Mechatronics (Theory)**
Code:	**BEME604T**
Sr. No.	**Course Outcome**
BEME604T.1	To understand key elements of mechatronics, identify various input output devices in automated control system.
BEME604T.2	to understand concept of data acquisition system, interfacing of input output devices in automated system.
BEME604T.3	Understand mechanical actuating systems, microprocessors & microcontroller.
BEME604T.4	Understand concept of digital logic,pin configuration & architecture of 8085 microprocessor.
BEME604T.5	Understand basic concept of PLC,it operation and able to draw ladder diagram.
BEME604T.6	Understand benefits and application of SCADA,working & application of micro electro mechanical system.

Subject :	**Mechatronics (Practical)**
Code:	**BEME604P**
Sr. No.	**Course Outcome**

BEME604P.1	Understand key elements of mechatronics,identify various input output devices in automated systems control system & example of mechatronics.
BEME604P.2	Understand concept of data acquisition system,interfacing of input output devices in automated system.
BEME604P.3	Understand mechanical actuating systems,microprocessors & microcontroller.
BEME604P.4	Understand concept of digital logic,pin configuration & architecture of 8085 microprocessor.
BEME604P.5	Understand basic concept of PLC,it operation and able to draw ladder diagram.
BEME604P.6	Understand benefits and application of SCADA,working & application of micro electro mechanical system.

Subject :	**Dynamics of Machine (Theory)**
Code:	**BEME605T**
Sr. No.	**Course Outcome**
1	To understand the method of dynamic force analysis of machinery.
2	To learn the concept of vibratory systems and their analysis.
3	To study the effect of undesirable effects of unbalances in rotors and engines.

Subject :	**Dynamics of Machine (Practical)**
Code:	**BEME605P**
Sr. No.	**Course Outcome**
BEME605P.1	Be proficient in the use of mathematical methods to analyse the forces and motion of complex systems of linkages, gears and cams.
BEME605P.2	Be able to design linkage, cam and gear mechanisms for a given motion or a given input/output motion or force relationship.
BEME605P.3	Be able to analyse the motion and dynamical forces acting on mechanical systems composed of linkages,gears and cams.

Subject :	**Functional English (Theory)**
Code:	**BEME606T**
Sr. No.	**Course Outcome**
BEME606T.1	To build the self confidence to face competitive examinations like GATE/TOFEL/CAT/MAT etc.
BEME606T.2	To use the functional grammar to strengthen their writing skills.
BEME606T.3	To acquire language skills required to write their Reviews/ Projects/Reports.
BEME606T.4	To organize their thoughts in English in research and projects activities.
BEME606T.5	To face job interviews more confidentially.

Subject :	**Computer Application-II (Practical)**
Code:	**BEME607P**
Sr. No.	**Course Outcome**
BEME607P.1	Understand the concepts & applications of DBMS.
BEME607P.2	Develop database modeling for a problem.
BEME607P.3	Implement a database query language.

Subject :	**Industrial Case Study (Practical)**
Code:	**BEME608P**
Sr. No.	**Course Outcome**
BEME608P.1	To acquaint the students with various industrial/organizational problems and how they can be solved using methods/ techniques/ theories etc. studied in curriculum.

7th Semester

Course Outcome

Subject :	**INDUSTRIAL ENGINEERING (Theory)**

Code:	BEME701T
Sr. No.	Course Outcome
BEME701T.1	To study the productivity and its measure using work study and method study techniques.
BEME701T.2	To apply work measurement technique to analyze work content to calculate standard time in given situation and make use of ergonomics for human comfort at work place.
BEME701T.3	To define,classify and analyze forecasting techniques.
BEME701T.4	To study reliability and maintainability techniques.
BEME701T.5	To study quality control tools to evaluate quality limits and to apply quality control technique in a given situation.

Subject :	ELECTIVE – I: AUTOMOBILE ENGINEERING (Theory)
Code:	BEME702T3
Sr. No.	Course Outcome
BEME702T3.1	To understand the basic concepts of automobile and its components.
BEME702T3.2	It includes information of different chassis, frame, power plant, clutch, gear box, transmission system, brakes, steering systems, wheels, tyres, suspension systems and electrical systems used in automobile.
BEME702T3.3	To be able to understand the basics about the vehicle, its components and recent advances in automobiles.

Subject :	COMPUTER AIDED DESIGN (Theory)
Code:	BEME703T
Sr. No.	Course Outcome
BEME703T.1	Write & Explain how pixel position are located and displayed on computer screen in order to generate any basic geometric entities.
BEME703T.2	Apply transformations on 2D & 3D objects, and determine the final state and shape of object.
BEME703T.3	Explain the different geometric modeling techniques, synthetic curves & methods of assembly modeling.
BEME703T.4	Apply finite element method on one dimensional bar element and truss problem to determine nodal displacement, reaction force, element stress.
BEME703T.5	Calculate the optimization parameter and check the geometric constraints for each of the given set of material. Select the most suitable material by analyzing the results of these materials using Johnson Method of Optimization.

Subject :	COMPUTER AIDED DESIGN (Practical)
Code:	BEME703P
Sr. No.	Course Outcome
BEME703P.1	Write logic in the form of an algorithm to construct geometric entities and generate a computer program for the same.
BEME703P.2	Write computer program for 2D and 3D Transformation on any object.
BEME703P.3	Generate 2-D and 3-D geometric model of Engineering object using construction and modifying commands using CAD software.
BEME703P.4	Develop finite element model of an engineering problem, apply loading conditions and boundary conditions, and solve it for analysis.

Subject :	ENERGY CONVERSION - II (Theory)
Code:	BEME704T
Sr. No.	Course Outcome
BEME704T.1	To study the energy conversion systems and power generation systems.
BEME704T.2	It includes the construction, operation and analysis of air compressors, internal combustion engines.
BEME704T.3	To be able to analyse the performance of air compressors, internal combustion engines and refrigeration and air conditioning installations.

Subject :	Energy Conversion-II (Practical)
Code:	BEME704P
Sr. No.	Course Outcome
BEME704P.1	To explain the working of Reciprocating compressor and evaluate the performance parameters of single stage Reciprocating air compressor.
BEME704P.2	To compare reciprocating and rotary compressor, explain and classify rotary compressor.
BEME704P.3	To explain, classify, analyze I. C engine and explain the phenomenon of stages of combustion in S.I & C.I engines, knocking and fuel supply systems.
BEME704P.4	To evaluate the performance parameters of I.C. engine and able to prepare heat balance sheet for I.C. Engine.
BEME704P.5	To explain the working of refrigeration systems and solve the problems related to single stage vapor compression refrigeration cycle.
BEME704P.6	To explain the working of air conditioning systems and solve simple problems on psychometrics.

Subject :	DESIGN OF MECHANICAL DRIVES (Theory)
Code:	BEME705T
Sr. No.	Course Outcome
BEME705T.1	To come to know various types of drives available and their capabilities (applications).
BEME705T.2	To familier with the design principles and design procedures of mechanical drives.
BEME705T.3	To explore engineering knowledge by solving given problems, there by strengthing the fundamentl concepts.
BEME705T.4	To get handfull of information on how to select and design appropriate mechanical drive/s.
BEME705T.5	To learn how to make use of design data for engineering problems and will learn the importance of standardization in diamensions ,etc.

Subject :	DESIGN OF MECHANICAL DRIVES (Practical)
Code:	BEME705P
Sr. No.	Course Outcome
BEME705P.1	Specifically, students will demonstrate the preceding abilities by performing correctly:
BEME705P.2	(i) the design, analysis and sizing of shafts, keys and couplings.
BEME705P.3	(ii) the selection of bearing types, and sizing and analysis of rolling element bearings.
BEME705P.4	(iii) the selection of gear types, sizing, analysis and material selection of gear systems.
BEME705P.5	Students will demonstrate the ability to seek and learn a methodology to design a project in addition to the class topics through the completion of open ended project

Subject :	PROJECT SEMINAR (Practical)
Code:	BEME706P
Sr. No.	Course Outcome
BEME706P.1	To inculcate the habit of learning and work execution as a member of the team to achieve the final objective.
BEME706P.2	To identify a project topic, collection of literature, schedule preparation and report preparation with seminar delivery.

8th Semester

Course Outcome

Subject :	INDUSTRIAL MANAGEMENT (Theory)
Code:	BEME801T
Sr. No.	Course Outcome

BEME801T.1	To understand the concept of administration & management; basic Management Functions, the recruitment, man power planning at industry as well as various aspect governing with industrial acts, to understand plant management, Lay-outs, Industrial safety programes, classification of production systems.
BEME801T.2	To explore the core concept in marketing, Product Life cycle, Pricing, Channel of product distribution, concept of material management, Purchase function, Vender Selection, Ethics in purchasing and various codifications.
BEME801T.3	To aware about the concept of finance management, various sources of generating the finance and recent trends in management.

Subject :	**ELECTIVE – II : COMPUTER INTEGRATED MANUFACTURING (Theory)**
Code:	**BEME802T2**
Sr. No.	**Course Outcome**
BEME802T2.1	To acquaint the students with data bases and numerical analysis related to CIM.
BEME802T2.2	To understand Computer Aided Manufacturing (CAM) systems.
BEME802T2.3	To get introduced with Computer Aided Process Planning (CAPP) Systems, Robotic Systems, Group Technology and Cellular Manufacturing Systems.
BEME802T2.4	To have understanding about Automated Material Handling Systems, Automated Inspection Systems, Flexible Manufacturing Systems (FMS).

Subject :	**ELECTIVE – II : COMPUTER INTEGRATED MANUFACTURING (Practical)**
Code:	**BEME802P2**
Sr. No.	**Course Outcome**
BEME802P2.1	The understand prodcut development cycle in CIM and basic components and classifiction of NC system.
BEME802P2.2	To apply programming knowledge to write manual part programming for a component in CNC Lathe and CNC Milling.
BEME802P2.3	To understand parts classification and coading using Group Technology.
BEME802P2.4	To study about Computer Aided Process Planning (CAPP) Systems and Flexible Manufacturing Systems (FMS).

Subject :	**ELECTIVE-III: ADVANCE INTERNAL COMBUSTION (IC) ENGINE (Theory)**
Code:	**BEME803T5**
Sr. No.	**Course Outcome**
BEME803T5.1	To understand the basic concept of I.C. engine and its components.
BEME803T5.2	It includes information of different engine operating cycles, engine lubrication, engine cooling, automobile fuel, fuel supply system, combustion in S.I. & C.I. engine, air pollution and its control.
BEME803T5.3	The course also involves performance and testing of I.C. engine.
BEME803T5.4	To understand the basic about I.C. engine, its components, working and recent advancement in I.C. engine.

Subject :	**AUTOMATION IN PRODUCTION (Theory)**
Code:	**BEME804T**
Sr. No.	**Course Outcome**
BEME804T.1	To get the understanding regarding how automation is used to increase production.
BEME804T.2	To get exposed to automation, numerical control system, NC machines, CNC machines, DNC machines, industrial robotics and robot applications.

BEME804T.3	To cultivate understanding about automated material handling systems, automated storage and retrieval system, automated inspection and group technology, computer aided manufacturing and flexible manufacturing system [FMS].

Subject :	**AUTOMATION IN PRODUCTION (Practical)**
Code:	**BEME804P**
Sr. No.	**Course Outcome**
BEME804P.1	To apply programming knowledge to write manual part programming for a component in CNC Lathe.
BEME804P.2	To apply programming knowledge manual part programming for a component in CNC Milling machine.
BEME804P.3	To create a part programming for a component using APT language
BEME804P.4	To identify and define various links and joints and movements of Robot.
BEME804P.5	To justify classification of parts using Group Technology.
BEME804P.6	To analyze and defend case study on automated system of Industry.

Subject :	**ENERGY CONVERSION - III (Theory)**
Code:	**BEME805T**
Sr. No.	**Course Outcome**
BEME805T.1	Understand the overall gas turbine cycle ,analyze and evaluate it's knowledge in the field of power generation, aviation and also in the field of oil and gas industry.
BEME805T.2	To study the current energy scenario, various energy conservation techniques and energy auditing.
BEME805T.3	To study various non conventional energy sources and their significance in present energy crises.
BEME805T.4	To understand various Hydraulics and Pneumatic techniques used in various applications & industries.

Subject :	**ENERGY CONVERSION - III (Practical)**
Code:	**BEME805P**
Sr. No.	**Course Outcome**
BEME805P.1	Able to understand the working phenomenon and applications of Gas Turbine and Jet Propulsion.
BEME805P.2	Able to understand the working and various application of Solar Energy.
BEME805P.3	Able to compare the component details of Hydraulic and Pneumatic system in detail
BEME805P.4	Able to understand and indentify the application areas of Hydraulic and Pneumatic system in detail.
BEME805P.5	Able to understand the importance of energy audit and manangement . It also gives brief idea about India's Energy Scenario.

Subject :	**PROJECT (Practical)**
Code:	**BEME806P**
Sr. No.	**Course Outcome**
BEME806P.1	To inculcate the habit of independent learning & work execution and also in a capacity as a member of group to achieve the final intended objectives.
BEME806P.2	To be able to apply the acquired knowledge for solving real life engineering problems.