



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Course Name : Mathematics III
Course Code : BT-401
Semester : IV
Session : Jan-June 2023


Course Outcomes

Students will be able to:

CO 1	Solve problems in engineering domain related to Linear Algebra using matrices.	L1
CO 2	Analyze and solve engineering problems using Laplace Series.	L2
CO 3	Analyze and solve engineering problems using Taylor's Series.	L2
CO 4	Solve engineering problems using polynomial equation	L1
CO 5	Analyze and solve engineering problems using Fourier Series	L3

Where

L1: Remember ,
L2: Understand,
L3: Apply ,
L4 : Analyze ,
L5 : Evaluate,
L6 : Create.


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Department of Computer Science Engineering
Sagar Institute of Research & Technology-Excellence
Bhopal (M.P.)

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Course Name : Database Management System
Course Code : AD-402
Semester : IV
Session : Jan-June 2023

Course Outcomes

Students will be able to:

CO 1:	Describe the fundamental elements of relational database management systems	L2
CO 2:	Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL..	L1
CO 3:	Design ER-models to represent simple database application scenarios	L3
CO 4:	Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data.	L3
CO 5:	Improve the database design by normalization	L2

Where

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L3: Apply ,
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योग: कर्मसु कौशलम्

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Course Name : Software Engineering with Agile
Course Code : AD-403
Semester : IV
Session : Jan-June 2023

Course Outcomes

Students will be able to:

CO 1:	Students will be able to decompose the given project in various phases of a lifecycle	L1
CO 2:	Students will be able to choose appropriate process model depending on the user requirements	L2
CO 3:	Students will be able perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance	L4
CO 4:	Students will be able to know various processes used in all the phases of the product.	L2
CO 5:	Students can apply the knowledge, techniques, and skills in the development of a software product.	L3

Where

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Course Name : Data Science
Course Code : AD-404
Semester : IV
Session : Jan – June 2023

Course Outcomes

Students will be able to:

CO 1:	Explain the structured and unstructured data	L2
CO 2:	To expose students to various perspectives and concepts in Data Science	L3
CO 3:	Data visualization techniques and ability to implement data visualization techniques	L3
CO 4:	To Understand the Concept of Advance Excel	L1
CO 5:	Analyze the Dynamic Array Formulas	L4

Where

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Course Name : Operating System
Course Code : AD-405
Semester : IV
Session : Jan-June 2023

Course Outcomes

Students will be able to:

CO 1:	Explain the concepts of operating system, its services and types so as to retain and use it lifelong.	L1
CO 2:	Examine the significance of operating system in computing devices in terms of management of process, file, memory and I/O operations.	L2
CO 3:	Implement various process scheduling algorithms, disk scheduling algorithms, page fault algorithms and I/O methods	L3
CO 4:	Compare and contrast knowledge of operating system to its various kinds like Linux/Unix, windows and other contemporary operating systems	L4
CO 5:	Explain the concepts of distributed and multiprocessor operating systems along with its security threats concepts.	L1

Where

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DEPARTMENT OF MECHANICAL ENGINEERING

Course Name : Bachelor of Technology (Mechanical Engineering)
 Session : Jan-June 2023
 Subject Name : Energy & Environmental Engineering
 Subject Code : ES-401
 Semester/Year : IV/II

Course outcomes

COs	Statement	Level
	Students will be able to:	
CO1	Define the energy systems, sources, transformations, efficiency, and storage, alternatives for fossil fuels - biomass, wind, solar, nuclear, wave, tidal and hydrogen.	L1
CO2	Explain the concept, structure and function of an ecosystem. Represent energy flow in the ecosystem; ecological succession; food chains, food webs and ecological pyramids; compare various eco systems.	L2
CO3	Define genetic, species and ecosystem diversity. Classify Bio-geography of India; Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values. Understand genetic, species and ecosystem diversity, biodiversity and able to compare Biodiversity at global, national and local levels;	L2
CO4	Explain cause, effects and control measures of air pollution, water pollution, soil pollution, marine pollution, noise pollution, thermal pollution, nuclear hazards. Applying pollution case studies; disaster management: floods, earthquake, cyclone and landslides.	L2
CO5	Explain urban problems related to energy; water conservation, rain water harvesting, watershed management; resettlement and rehabilitation of people; its problems and concerns.	L2
CO6	Analyse local polluted site-Urban/Rural/Industrial/Agricultural area.	L4

L1 : Remembering	L2 : Understanding	L3 : Applying
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DEPARTMENT OF MECHANICAL ENGINEERING

Course Name : Bachelor of Technology (Mechanical Engineering)
Session : Jan-June 2023
Subject Name : Instrumentation & Control
Subject Code : ME 402
Semester/Year : IV/II

Course outcomes

COs	Statement	Level
	Students will be able to :	
CO1	Apply the fundamental concepts of measurement	L3
CO2	Analyze the dynamic characteristics of signals to determine the behaviour of signals	L
CO3	Apply appropriate instruments to measure different quantities	L3
CO4	Analyze output of instruments for different measuring system	L4
CO5	Apply the concepts of control system to get the information of system behaviour.	L2

L1 : Remembering	L2 : Understanding	L3 : Applying
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DEPARTMENT OF MECHANICAL ENGINEERING

Course Name : Bachelor of Technology (Mechanical Engineering)
Session : Jan-June 2023
Subject Name : Theory of Machines
Subject Code : ME-403
Semester/Year : IV/II

Course outcomes

COs	Statement	Level
	Students will be able to :	
CO1	Analyze the mechanisms for computing the displacement, velocity and acceleration at any point in a moving link of the mechanisms.	L4
CO2	Apply graphical and analytical method for kinematic synthesis of mechanisms.	L3
CO3	Understand and apply the concept of Cams & Followers to draw the Cam profile to compute the operating parameters of Cams & Followers.	L3
CO4	Apply the principles of friction in frictional devices like clutch, brake and pulley to effective utilization of in machines for society.	L3
CO5	Compare different types of gear and gear train for effective application in mechanical systems.	L4

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DEPARTMENT OF MECHANICAL ENGINEERING

Course Name : Bachelor of Technology (Mechanical Engineering)
Session : Jan-June 2023
Subject Name : Fluid Mechanics
Subject Code : ME-404
Semester/Year : IV/II

Course outcomes

COs	Statement	Level
CO1	Students will be able to : Understand the basics concepts of fluid properties and their applications, concept of hydraulic forces, continuum and determine the viscosity.	L3
CO2	Calculate the velocity and acceleration at a point in a fluid flow and understand the concept of rotation, vortices and types of flow.	L3
CO3	Understand the concept of discharge, venturi meter, orifice meter, pitot tube, momentum equation, lift and drag force and calculate the discharge.	L3
CO4	Gain the fundamental knowledge on fluid flow through pipes of various section and determine the losses in the flow system.	L3
CO5	Explain boundary layer concept and derive equations with different conditions.	L3

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Course Name : Bachelor of Technology (Mechanical Engineering)
Session : Jan-June 2023
Subject Name : Manufacturing Technology
Subject Code : ME-405
Semester/Year : IV/II

Course outcomes

COs	Statement	Level
	Students will be able to :	
CO1	Explain basics of machining processes, broaching, grinding and surface finishing processes like lapping, honing and super finishing.	L2
CO2	Explain various methods of gear manufacturing and apply suitable method to make required type of gear.	L3
CO3	Explain different moulding processes for plastic work and identify the suitable method for new applications.	L3
CO4	Compare various non-conventional machining processes: AJM, UM, EDM, ECM, EBM, LBM.	L3
CO5	Explain extrusion processes, sawing processes and NC machine tools.	L2

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DEPARTMENT OF MECHANICAL ENGINEERING

Course Name : Bachelor of Technology (Mechanical Engineering)
Session : Jan to June , 2023
Subject Name : Thermal Engg. & Gas Dynamics (TEGD)
Subject Code : ME-601
Semester/Year : VI/III

Course Outcomes

COs	Statement	Level
	Students will be able to:	
CO1	Define steam generators with their classification and to solve boiler performance problems using different operational parameters	L3
CO2	Demonstrate various phase change cycles for steam and binary vapor cycle with solving efficiency and workdone related problems	L3
CO3	Explain compressible flow of gases at different speeds with applying fundamentals to solve engineering problems for nozzles and diffusers	L3
CO4	Classify working of reciprocating and rotary compressors with efficiency and to solve engineering problems on performance of compressors	L3
CO5	Show performance of steam nozzles, condensers, Heat Exchangers and cooling towers and to solve related engineering problems	L3

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DEPARTMENT OF MECHANICAL ENGINEERING

Course Name : Bachelor of Technology (Mechanical Engineering)
Session : Jan-June 2023
Subject Name : Machine component design
Subject Code : ME-602
Semester/Year : VI/III

Course outcomes

COs	Statement	Level
	Students will be able to :	
CO1	Justify that fatigue testing is required.	L3
CO2	Design and analysis of shaft under combined bending, twisting and axial loading.	L4
CO3	Design helical compression spring and leaf spring.	L3
CO4	Develop the design and use of Brakes & Clutches.	L3
CO5	Compare design of journal bearing and rolling contact bearing.	L4

L1 : Remembering	L2 : Understanding	L3 : Applying
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DEPARTMENT OF MECHANICAL ENGINEERING

Course Name : Bachelor of Technology (Mechanical Engineering)
Session : Jan-June 2023
Subject Name : Turbo Machinery
Subject Code : ME-603 (A)
Semester/Year : VI/III

Course Outcomes

COs	Statement	Level
	Students will be able to :	
CO1	Explain the basic concepts involved in the working of turbo-machines related to thermodynamics and energy.	L2
CO2	Structure and Analyze the steam turbines, water turbines, rotatory fans, blowers and compressors including developing solutions when employed in practice.	L4
CO3	Determine and Solve activities based on their fundamental working concepts as well as examining issues related to Performance, characteristics and application of dimensional analysis.	L3
CO4	Determine the concepts on classification based on laws, efficiency and characteristics.	L3
CO5	Calculate torque ratio, speed ratio, slip and efficiency, velocity diagrams.	L3

L1 : Remembering	L2 : Understanding	L3 : Applying
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DEPARTMENT OF MECHANICAL ENGINEERING

Course Name : Bachelor of Technology (Mechanical Engineering)
Session : Jan-June 2023
Subject Name : Renewable Energy Technology
Subject Code : ME604 (C)
Semester/Year : VI/ III

Course outcomes

COs	Statement	Level
	Students will be able to :	
CO1	Explain solar thermal and photovoltaic energy conversion, their applications and design solar collectors.	L4
CO2	Explain wind energy conversion, estimate energy generation by wind	L3
CO3	Explain energy generation from biomass, thermo-chemical and biochemical processes of gasification, analyze power generation by gasification.	L4
CO4	Assess power generation using mini/ small hydro turbines, ocean tide and waves, distinguish among various ocean energy resources e.g. ocean thermal, wave and tide	L3
CO5	Estimate energy generation from geo thermal, fuel cells, and describe hydrogen generation & storage.	L3

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DEPARTMENT OF MECHANICAL ENGINEERING

Course Name : Bachelor of Technology (Mechanical Engineering)
Session : Jan-June 2023
Subject Name : Refrigeration & Air Conditioning
Subject Code : ME-801
Semester/Year : VIII/IV

Course outcomes

COs	Statement	Level
	Students will be able to:	
CO1	Explain the principles & methods of refrigeration and analyse COP, refrigeration effect for air refrigeration cycles.	L4
CO2	Apply working principle of VCR system to solve the problems based on VCR system.	L3
CO3	Compare different refrigerants and explain the working principle of Vapour Absorption refrigeration system.	L2
CO4	Analyze different psychrometric processes on general cycle air conditioning system.	L4
CO5	Calculate cooling load for various air conditioning systems.	L3

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DEPARTMENT OF MECHANICAL ENGINEERING

Course Name : Bachelor of Technology (Mechanical Engineering)
Session : Jan-June 2023
Subject Name : Automobile Engineering
Subject Code : ME-802 (A)
Semester/Year : VIII /IV

Course outcomes

COs	Statement	Level
CO1	Students will be able to : Compare between Chassis and Frame, explain vehicle body and their construction	L 2
CO2	Explain the concept of steering system, suspension system, tyres and its utility	L 2
CO3	Classify the clutch, gear boxes and explain their application for transmission	L 2
CO4	Explain ignition system, electrical system, maintenance and control	L 2
CO5	Summarise emission standards, pollution control norms and environmental management systems for automobile vehicle	L 2

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DEPARTMENT OF MECHANICAL ENGINEERING

Course Name : Bachelor of Technology (Mechanical Engineering)
Session : Jan-June 2023
Subject Name : Entrepreneurship and Management Concepts
Subject Code : ME 803(C)
Semester/Year : VIII/IV

Course outcomes

COs	Statement	Level
	Students will be able to :	
CO1	Explain the concept of system, related parameters and models that leads to customer delight.	L2
CO2	Explain the theories principles of management and HR Skills and strategies.	L2
CO3	Explain and apply the various marketing techniques along with basic concepts of finance.	L3
CO4	Explain the effects of productivity and operations in quality.	L2
CO5	Explain the concept of entrepreneurship, theories of entrepreneur and interpret the business conditions.	L2

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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name : B.Tech.
Branch : Civil Engineering
Semester : IV
Course Name : ENERGY & ENVIRONMENTAL ENGINEERING
Course Code : ES-401
Session : Jan - June 2023

COs	Course Outcomes	Level
CO 1	Introduce energy systems and renewable energy resources and its types.	L1
CO 2	Acquire Basic understanding of the ecosystem comprising of three principle components: Energy environment and climate change.	L2
CO 3	To understand bio-diversity and interdependency of each species on each other, threats and how to conserve it?	L2
CO 4	Explain alternative energy sources.	L2
CO 5	Understand about new technologies and their applications.	L2

Bloom's taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name : B.Tech.
Branch : Civil Engineering
Semester : IV
Course Name : CONSTRUCTION TECHNOLOGY
Course Code : CE-402
Session : Jan - June 2023

COs	Course Outcomes	Level
CO 1	To discuss foundation and its types.	L2
CO 2	To describe special kinds of formwork and temporary structure.	L5
CO 3	To analysis masonry, wall and also to demonstrate different tests on brick, cement, aggregate, concrete and tiles.	L4
CO 4	Analyze Repair Techniques for masonry, walls, doors, windows, roofs and floors.	L4
CO 5	Plan earthquake resistant building.	L3

Bloom's taxonomy levels	
L1	Remember
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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name : B.Tech.
Branch : Civil Engineering
Semester : IV
Course Name : THEORY OF STRUCTURES - I
Course Code : CE-403
Session : Jan - June 2023

COs	Course Outcomes	Level
CO 1	Define and understand the basics of structure and types, determinate and indeterminate and energy method to compute the deflection.	L4
CO 2	Compute and analyze the indeterminate structures by MDM and TME method	L4
CO 3	Analyze determinate as well as indeterminate structures.	L4
CO 4	Analyze structures for gravity loads, moving loads and lateral loads.	L4
CO 5	Identify, analyze & solve problems related to arches.	L4

Bloom's taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name : B.Tech.
Branch : Civil Engineering
Semester : IV
Course Name : TRANSPORTATION ENGINEERING – I
Course Code : CE-404
Session : Jan - June 2023

COs	Course Outcomes	Level
CO 1	Understand the basics of railway engineering and be able to sketch the different parts of permanent way.	L1
CO 2	Explain different geometric parameters of railway track and be able to compare between types of signal in stations and yards.	L2
CO 3	Discuss fundamentals of tunnel and its construction.	L2
CO 4	Explain alternative energy sources.	L2
CO 5	Understand about new technologies and their applications.	L2

Bloom's taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name : B.Tech.
Branch : Civil Engineering
Semester : IV
Course Name : ENGINEERING GEOLOGY & REMOTE SENSING
Course Code : CE-405
Session : Jan - June 2023

COs	Course Outcomes	Level
CO 1	Discuss about interior of earth, natural disasters like earthquake and volcanoes and work of weathering agencies.	L2
CO 2	Identify minerals and crystals and their economic and civil engineering importance.	L2
CO 3	Recognize rock formations like igneous, sedimentary, metamorphic rocks and brief geological history of India.	L2
CO 4	Identify how structural deformation like fold, faults and joints help to plan location for civil construction purpose.	L3
CO 5	Identify engineering properties for site selection for geotechnical structures and remote sensing and GIS application.	L3

Bloom's taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name : B.Tech.
Branch : Civil Engineering
Semester : VI
Course Name : RCC-I
Course Code : CE-601
Session : Jan - June 2023

COs	Course Outcomes	Level
CO 01	Understand limit state method of design and relate the general behavior of reinforced concrete with steel.	L4
CO 02	Analyze and design the various types of beams i.e. doubly reinforced and flanged beam.	L4
CO 03	Analyze and design the various types of slabs.	L2
CO 04	Analyze and design for vertical & horizontal shear reinforcement of member.	L6
CO 05	Analyze drawing and showing reinforcement steel detailing also able to analyze design for deflection and crack control & development length of concrete members.	L6

Bloom's taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name : B.Tech.
Branch : Civil Engineering
Semester : VI
Course Name : ENVIRONMENTAL ENGINEERING-I
Course Code : CE-602
Session : Jan-June 2021

COs	Course Outcomes	Level
CO 01	Explain different sources of water, method of population forecasting.	L2
CO 02	Distinguish the characteristics of water relevant to drinking water standards and determine the necessity of treatment and also able to differentiate it.	L3
CO 03	Understand and design water treatment plant units.	L6
CO 04	Understand Sewerage schemes and their importance	L2
CO 05	Apply knowledge of Characteristics of waste water	L3

Bloom's taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name : B.Tech.
Branch : Civil Engineering
Semester : VI
Course Name : WRE-I
Course Code : CE-603
Session : Jan - June 2023

COs	Course Outcomes	Level
CO 01	Characterise and classify soils.	L2
CO 02	Identify shear strength parameters for field conditions.	L3
CO 03	Compute and analyze the consolidation settlements.	L4
CO 04	Understand Canals and other Structures	L2
CO 05	Analyze the Floods	L4

Bloom's taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name : B.Tech.
Branch : Civil Engineering
Semester : VI
Course Name : ENVIRONMENTAL IMPACT ASSESSMENT
Course Code : CE-604
Session : Jan-June 2023

COs	Course Outcomes	Level
CO 01	Interpret the concept of EIA, stages of EIA and about Environmental impact statement.	L2
CO 02	Summarize methods of impact identification.	L2
CO 03	Analyze and assess about impact analysis.	L4
CO 04	Understand about the preparation of written documentation initial and detailed phase planning phase etc.	L2
CO 05	Analyze and formulate public participation in environmental decision making.	L4

Bloom's taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF CIVIL ENGINEERING

COURSE OUTCOME

Program Name : B. Tech.
Branch : CIVIL Engineering
Semester : VIII
Course Name : Design of Steel Structures
Course Code : CE801
Session : Jan - June 2023

Students will be able to

CO No.	CO Statement	Level
CO 1	Design plate girder and bridges.	L4
CO 2	Design truss girder bridges and bearing.	L4
CO 3	Design pressed steel water tank.	L4
CO 4	Design chimneys and its components.	L4
CO 5	Design bunkers, silos and towers.	L4

Bloom's taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF CIVIL ENGINEERING

COURSE OUTCOME

Program Name : B. Tech.
Branch : CIVIL Engineering
Semester : VIII
Course Name : Foundation Engineering
Course Code : CE802
Session : Jan - June 2023

Students will be able to

CO No.	CO Statement	Level
CO 1	Understand the Selection of foundation and Sub-soil investigation	L2
CO 2	Design of Shallow Foundation	L4
CO 3	Understand the function of Pile foundations	L2
CO 4	Analyze Foundations on problematic soil & Introduction to Geosynthetics	L4
CO 5	Understand Lateral Earth Pressure and Retaining walls	L2

Bloom's taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF CIVIL ENGINEERING
COURSE OUTCOME

Program Name : B. Tech.
Branch : CIVIL Engineering
Semester : VIII
Course Name : Retrofitting and Rehabilitation of Structures
Course Code : CE803
Session : Jan - June 2023

Students will be able to

CO No.	CO Statement	Level
CO 1	Understand Retrofitting and Rehabilitation of Structures	L2
CO 2	Apply Damage Assessment	L3
CO 3	Understand Influence on Serviceability and Durability	L2
CO 4	Apply Maintenance and Retrofitting Techniques.	L3
CO 5	Apply knowledge of Materials for Repair and Retrofitting:	L3

Bloom's taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF APPLIED SCIENCE

Course Outcomes

Subject-Engg.Chemistry
Sub.Code-BT-101

After completion of course student will be able to:

CO1	To apply basic knowledge of water analysis techniques and its industrial applications.	L 3
CO2	To understand classification of lubricants along with mechanism of lubrication and determination of different lubricating properties.	L 4
CO3	Illustrate knowledge of classification & mechanism of different types of polymer and its industrial applications	L 4
CO4	To Understand the spectroscopic techniques of diatomic and polyatomic molecules in terms of vibrational and rotational spectra	L 2
CO5	To Understand the periodic properties of s, p, d and f block elements	L 2
CO6	To analyze a graphically phase equilibrium and corrosion mechanism of different metals	L 4

Bloom's Taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF APPLIED SCIENCE

Course Outcomes

Subject Name: Engg. Mathematics-I

Subject Code: BT-102

After completion of course student will be able to:-

CO1	To introduce the idea of applying differential calculus for solving problems of Rolle's theorem, Mean value theorem, Expansion of function, Maxima and Minima.	L 3
CO2	To introduce the idea of applying integral calculus (Multiple integral) for calculating Area and Volumes of the curves. Apart from some applications it gives a basic introduction on Beta and Gamma functions and Multiple integral.	L 3
CO3	To develop the tool of power series and Fourier series for learning advanced Engineering Mathematics.	L 3
CO4	To understand concept of Vector space, its properties, Linear combination of vectors and Basis of Vector space.	L 3
CO5	To develop the essential tool of matrices and linear algebra in a comprehensive manner.	L 3

Bloom's Taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF APPLIED SCIENCE

Course Outcomes

**Subject-English for Communication
Sub.Code-BT-103**

After completion of course student will be able to:

CO1	Identify and apply rules of grammar that are used in sentence Structure.	L 3
CO2	Reproduce and convert the sentences into other forms of grammatical structures.	L 6
CO3	Interpret and Express the main ideas in the text, specific details, distinguish main idea(s) from supporting details, make inferences based on comprehension of a text and build academic vocabulary.	L 5
CO4	Infer, express and restate knowledge of Communication theory and application.	L 4
CO5	Apply and illustrate oral, written and visual communication, Analyze barriers to Communication and seven C's of Communication.	L 4
CO6	Create, produce and construct various kinds of Business letters, Reports, emails in suitable formats using appropriate vocabulary.	L 6

Bloom's Taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF APPLIED SCIENCE

Course Outcomes

Subject Name : BEEE

Subject Code : BT-104

After completion of course student will be able to

COs	Statement	
CO1	Apply different techniques for analysis of electrical DC and AC Circuit.	L 4
CO2	Acquire knowledge about the constructional details, principle of operation, testing and applications of transformers.	L 3
CO3	Explain working principle, constructional features, principle of operation and applications of DC and AC machines	L 3
CO4	To understand the knowledge about the characteristics and working principles of semiconductor diodes, Bipolar Junction Transistor	L 2
CO5	To understand about the basic introduction of Digital electronics	L 2

Bloom's Taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF APPLIED SCIENCE

Course Outcomes

Subject Name : Engineering Graphics

Subject Code : BT-105

After completion of course student will be able to:

COs	Statement	
CO1	Use the drawing instruments effectively and able to dimension the given figures. Describe Construct and Interpret appropriate drawing scale as per the situation. Draw simple curves like ellipse, Parabola, Hyperbola, Cycloid, Epicycloids, Hypocycloid and Involutes	L 3
CO2	Describe and Understand the concept of projection and acquire visualization skills. Understand concepts of Pictorial & Orthographic Projections. Draw Projection of Points & Straight Lines in all possible quadrants.	L 2
CO3	Able to draw the basic views related to Orthographic Projections of Planes, Solids & Section of Solids. To analyze & improve understanding of real life problems related to Engineering.	L 4
CO4	To familiarize with application of Development of Surfaces of Solids. Layout development of solids for practical situations. Draw and interpret isometric projections of simple objects & small Machine Components.	L 3
CO5	Overview of Computer Graphics covering, listing the computer technologies that impact on graphical communication. Demonstrating knowledge of the theory of CAD software. Advantage & Disadvantage of CAD. Different commands used in CAD software and basic knowledge of Computer Aided Drafting (CAD).	L 3

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DEPARTMENT OF APPLIED SCIENCE

Course Outcomes

Subject Name: Engg. Physics

Subject Code: BT-201

After completion of course student will be able to:-

CO1	Explain de-Broglie's hypothesis, dual nature of particle, Determine Eigen value of particle in infinite potential well	L 2
CO2	Describe various phenomenon of light; distinguish interference and diffraction through its applications.	L 2
CO3	Explain Kronig-Penney model, categorize various materials through application, also describe or illustrate the characteristics of various diodes	L 4
CO4	Categorize normal and LASER light, explain its concept in propagation of LASER light through optical fibre and calculate the various parameters	L 4
CO5	Co-relate electric and magnetic fields using Maxwell's equations, Derive Gradient, Divergence and Curl of Scalar and Vector fields, verify the Stokes and Gauss theorem.	L 2

Bloom's Taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF APPLIED SCIENCE

Course Outcomes

Subject Name: Engg. Mathematics-II

Subject Code: BT-202

After completion of course student will be able to:-

CO1	Identify different types of ordinary differential equations and solve first order, Higher degree differential equation, Homogenous – Non Homogenous Linear Differential Equation, simultaneous equation	L 3
CO2	Identify second order linear differential equation and solve its by various methods.	L 3
CO3	To understand the process of formation of partial differential equation and solve different types of linear and non-linear partial differential equations	L 3
CO4	Define Analytic function along with properties. Solve integration of complex functions using Cauchy's integral formula and Cauchy's residue theorem	L 3
CO5	To understand the differentiation and integration of vector and scalar function and solve of volume, surface integral of vector function by Stoke's, Gauss divergence theorem and Green's theorem	L 3

Bloom's Taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF APPLIED SCIENCE

Course Outcomes

Subject Name : Basic Mechanical Engineering

Subject Code : BT-203

Students will be able to

COs	Statement	
CO1	Define and Classify engineering materials. Explain stress – strain curve and mechanical properties like strength, ductility, brittleness etc	L4
CO2	What is measurement error and how to use of various measuring instruments like vernier caliper, micrometer, Dial gauge, and sine –bar and combination sets in various production processes .Demonstrate various operations of Lathe & Drill machine & identify parts.	L3
CO3	Define the fluids properties like density, viscosity, specific gravity etc. Explain how Hydraulic machine works based on Pascal's laws and the Bernoulli's equation like turbine, pump.	L2
CO4	Explain thermodynamic laws (I & II, Zeroth) and its various property, like internal energy, enthalpy, entropy .Define various steam property and Boiler Draught. Identify parts & demonstrate working of Boiler, mounting & accessories.	L3
CO5	Explain Heat engine and its Classification. Identify parts & demonstrate with the help of model working of working of four stroke & two stroke engine (Diesel and Petrol).	L3

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DEPARTMENT OF APPLIED SCIENCE

Course Outcomes

Subject Name : BCE&EM

Subject Code: BT-204

Students are able to

CO1	Identifying and characterizing different building material and building elements.	L4
CO2	Understanding the working principle of survey instruments and calculates distance, direction and elevation.	L2
CO3	Compute the area and volume, Able to understand remote sensing and its application in civil engineering.	L3
CO4	Students should be able to evaluate and analyze different force system.	L4
CO5	Analysis of perfect frame.	L4
CO6	Determination of centroid and moment of inertia of the given lamina.	L4

Bloom's Taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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DEPARTMENT OF APPLIED SCIENCE

Course Outcomes

Subject Name : Basic Computer Engineering (BT 205)
Subject Code : BT-205

Students are able to

COs	Statement	
C01.	Understand the basics of computer hardware and software .	L2
C02.	Understand the different programming paradigm and evaluate their relative benefits.	L5
C03	Learn and apply the concepts of C++ in Programming.	L3
C04.	Define and understand the concepts of computer network and security.	L2
C05	Understand the concepts of data base management system and cloud computing.	L2

Bloom's Taxonomy levels	
L1	Remember
L2	Understand
L3	Apply
L4	Analyze
L5	Evaluate
L6	Create

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