



Rayat Shikshan Sanstha's
Karmaveer Bhaurao Patil College of Engineering, Satara

Criterion 2 – Teaching, Learning and Evaluation

Key Indicator – 2.6 Student Performance and Learning Outcomes.

2.6.1 - Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.

| Sr.No. | Documentary Evidences / Sample Documents | Page No. |
|---------------|---|-----------------|
| 1 | Sample documents for course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students. | 1-14 |

| 2.6.1. | 2.6.1 - Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students. | | | | |
|----------------------------------|---|-----------------------------|---------------|---|--|
| Name of Department | Name Of Faculty | Name of subject | Class | List Of course Outcomes | Mechanism of communication to students |
| CSE | Prof. Dipali Ghatge | Machine Learning | TY A Div | CO1 Recognize the characteristics of machine learning that make it useful to real-world problems and Explain the machine learning concepts like Instance based learning, Feature reduction, Collaborative filtering based recommendation | |
| | | | | CO2 Explain the machine learning concepts like Bayes learning, Logistic Regression and Support Vector Machine | |
| | | | | CO3 Understand the concept behind neural networks | |
| | | | | CO4 Explain the computational learning theory and PAC learning model | |
| | | | | CO5 Solve the numerical based on K-means clustering | |
| Computer Science and Engineering | Mr. Vaibhav U. Bhosale | Software Engineering | TY- A Sem-V | Course Name Software Engineering: Course Outcomes- The student will be able to – 1. To understand what software engineering is and why it is important 2. To differentiate types of software systems and software engineering techniques 3. To Compare Software design model and enlist its application 4. To Apply software Engineering model for development of software application and apply method for testing 5. To understand some ethical and professional issues that are important for software engineers. Course Name Software Engineering: Course Outcomes | 1First Lecture of every semester 2. Through Google Classroom |
| Computer Science and Engineering | Mr. Vaibhav U. Bhosale | Machine Learning Lab | TY- A Sem- VI | 1. Ability to design and develop integrated hardware and software solutions 2. Proficiency in project management and teamwork 3. Demonstrate problem-solving and critical thinking skills | 1First Lecture of every semester 2. Through Google Classroom |
| Computer Science and Engineering | Mr. Vaibhav U. Bhosale | Competitive Programming Lab | TY- A Sem- VI | 1. Ability to design and develop integrated hardware and software solutions 2. Proficiency in teamwork 3. Demonstrate problem-solving and critical thinking skills | 1First Lecture of every semester 2. Through Google Classroom |

| Name of Department | Name Of Faculty | Name of subject | Class | List Of course Outcomes | Mechanism of communication to students |
|----------------------------------|-------------------------|--|---------------|---|---|
| Computer Science and Engineering | Mr. Manoj N. Rathod | 1. Software Engineering 2. Software Engineering Lab | TY- A Sem-V | Course Name Software Engineering: Course Outcomes The student will be able to – 1. To understand what software engineering is and why it is important 2. To differentiate types of software systems and software engineering techniques 3. To Compare Software design model and enlist its application 4. To Apply software Engineering model for development of software application and apply method for testing 5. To understand some ethical and professional issues that are important for software engineers. Course Name Software Engineering: Course Outcomes | 1 First Lecturer on every semester 2. Through Google Classroom |
| Computer Science and Engineering | Mr. Manoj N. Rathod | 1 Internet of Things | TY- A Sem- VI | Course Name Internet of Thing : Course Outcomes- The student will be able to – 1. To explain basic concept of Internet of Things and its Network Architecture 2. To describe different type of Sensors, Smart Objects, Sensor Networks, Connecting Smart Objects, and Communications Criteria 3. To discuss IP Layer protocol - Application Protocols and Transport Layer protocols 4. Identify data analytics techniques/tools for IoT and IoT Security. 5. To build IoT application with Arduino and Raspberry Pi, | 1 First Lecturer on every semester 2. Through Google Classroom |
| Computer Science and Engineering | Mr. Manoj N. Rathod | Mini Project-II | TY- A Sem- VI | 1. Ability to design and develop integrated hardware and software solutions 2. Proficiency in project management and teamwork 3. Demonstrate problem-solving and critical thinking skills | 1 First Lecturer on every semester 2. Through Google Classroom |
| Computer Science and Engineering | Mr. Manoj N. Rathod | Final Year Project | B.Tech | | |
| Computer Science & Engineering | Dr. Shabina Jameer Modi | Cloud Computing | B.Tech-CSE | CO1: Describe Cloud Computing , different Cloud service, deployment models and virtualization | 1. Google Classroom 2. During induction session 2. Before start of the every Unit |
| | | | | CO2: Apply the cloud services to design various instances. | |
| | | | | CO3: Interpret the various cloud computing models and services for defining cloud as an enterprise. | |
| | | | | CO4: Summarize the Aneka for Platform as a service. | |
| | | | | CO5: Illustrate the use of various cloud services available online. | |
| | Dr. Shabina Jameer Modi | Computer Networks | TY-CSE | CO1: Understand the requirements for a given organizational structure and select the most appropriate networking architecture and technologies.. | 1. Google Classroom 2. During induction |

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| Computer Science & Engineering | | | | CO2: Analyze the functions of different LAN Technologies and Protocols. CO3: Apply channel allocation, framing, flow control techniques, error correction and detection techniques. CO4: Analyze, specify and design the topological and routing strategies for an IP based networking infrastructure CO5: Determine impact of wired and wireless networks in the context of legal, safety and societal issues | session 2. Before start of the every Unit |
| Computer Science and Engineering | Mr. Bhagwat Shankar Uchale | Computer Architecture and Organization | Second Year | CO1 elaborate CPU structure and its function. CO2 explain instruction execution. CO3 apply computer arithmetic algorithms to solve numeric problems. CO4 explain memory organization. CO5 explain micro-program control unit and IO organization. | Lecture Plan, Orientation Lecture |
| Computer Science and Engineering | Mr. Bhagwat Shankar Uchale | Compiler Construction | Third Year | CO1: Students will be able to demonstrate phases of the compiler using a four step GCC Compilation process to validate and correct input program written. CO2: Students will be able to design lexical analyzer using Lex tool, Ragel. CO3: Students will be able to design Syntax analyzer using Yacc, ANTLR, EQM, PIC tool. CO4: Students will be able to use GOLD. CO5: Students will be able to use Spoofox. | Lecture Plan, Orientation Lecture |
| Computer Science and Engineering | Mr. Bhagwat Shankar Uchale | Miniproject | Third Year | CO-01: able to design and develop integrated hardware and software solutions. CO-02: use project management techniques and show teamwork CO-03: Demonstrate problem-solving and critical thinking skills | Laboratory Plan, Orientation Lecture |
| Computer Science & Engineering | Prof. Anuja Jadhav | Open Elective VII - Blockchain Technology | B.Tech Div A & B | CO1 Explain basic terminologies in Blockchain Technology CO2 Illustrate the use of blockchain technology in cryptocurrencies like Bitcoin CO3 Analyze permissioned and permissionless blockchain networks CO4 Compare different platforms and services available for blockchain applications CO5 Apply enhanced security mechanisms in various fields using blockchain technology | Physically in Classroom and on Google Classroom |
| Computer Science & Engineering | Prof. Anuja Jadhav | Operating System | SY B | CO1: Identify different types of operating system CO2: Explain scheduling algorithms in operating system CO3: Solve deadlock problem using various algorithms CO4: Discuss the memory management in operating systems CO5: Summarize file subsystems and I/O subsystems | Physically in Classroom and on Google Classroom |
| | Ms. Priyanka M. Salunkhe | Artificial Intelligence | B.Tech-CSE | CO1: Understand the principles of Artificial Intelligence. | 1. Google Classroom 2. |

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| Computer Science & Engineering | | | | CO2: Use appropriate search algorithms for any AI problem. CO3: Represent a problem using first order and predicate logic. CO4: Develop techniques for handling uncertainty in decision-making and modelling. CO5: Design applications for NLP that use Artificial Intelligence. | During induction session 2. Before start of the every Unit |
| Computer Science & Engineering | Ms. Priyanka M. Salunkhe | Employabilty Skill and Development | TY-CSE | CO1: Develop resume, skills and preparedness for aptitude tests. CO2: Apply strategies for improving performance in arithmetic, mathematical reasoning, and analytical reasoning tasks. CO3: Develop proficiency in English grammar and comprehension. CO4: Enhance interview preparedness and performance CO5: Develop effective problem-solving skills and techniques. | 1. Google Classroom 2. During induction session 2. Before start of the every Unit |
| Computer Science & Engineering | Ms. Priyanka M. Salunkhe | Mini Project-II | TY-CSE | CO1: able to design and develop integrated hardware and software solutions. CO2: use project management techniques and show teamwork CO3: Demonstrate problem-solving and critical thinking skills | 1. Google Classroom 2. During induction session 2. Before start |
| Computer Science & Engineering | Ms. Priyanka M. Salunkhe | Python Programming Lab | TY-CSE | CO1: Demonstrate fundamental programming skills in Python, including algorithm understanding and basic data structures, through program execution CO2: Apply Python programming for problem-solving through variables, operations, control flow, and functions, incorporating advanced features like optional arguments and default values. CO3: Apply Python for efficient problem-solving through statement processing, exception handling, and file manipulation. CO4: Apply Python data structures and object-oriented programming concepts for efficient problem-solving. CO5: Apply advanced SQL skills for efficient database design, implementation, and analysis, using SQLite manager and spidering Twitter for effective data retrieval. | 1. Google Classroom 2. During induction session 2. Before start of the every Unit |
| CSE | Prof. Minal Sonmale | Object Oriented Programming in JAVA(BTCOC 305) | S. Y. B.Tech(A Div) | CO1. Explain the students to concepts of object oriented paradigm and analyze the | ERP Portal, Google Classroom, During Orientation or Initial Class Sessions |
| | | | | CO2. Implement the control statements using Java. | |
| | | | | CO3. Implement the concept of Arrays using Java. | |
| | | | | CO4. Implement the concept of Inheritance and Polymorphism using Java. | |
| | | CO5. Explain and Implement the students to concepts of Exception Handling and J | | | |
| Object Oriented Programming Lab(BTCOL306) | S. Y. B.Tech(A Div) | CO1. Apply the Programming Concepts of Java to solve the given Problems CO2. Analyze the various solutions for a given problem using Java. CO3. Demonstrate Competence in Oral and Written Communication. | ERP Portal, Google Classroom, During Orientation or Initial Class Sessions | | |
| | | | | CO1. Identify different types of operating system | |

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| | | Operating Systems(BTCOC402) | S. Y. B.Tech(A Div) | CO2. Apply the concept of process synchronization. CO3. Explain scheduling algorithms in operating system. CO4. Solve deadlock problem using various algorithms. CO5. Discuss the memory management in operating systems. CO6. Summarize file subsystems and I/O subsystems. | ERP Portal, Google Classroom, During Orientation or Initial Class Sessions |
| | | Operating Systems Lab(BTCOL406) | S. Y. B.Tech(A Div) | CO 1. Understand Shell script programming. CO 2. Implement various concepts of operating systems using programming. CO 3. Develop the ability to learn constantly in a Dynamic environment. CO 4. Demonstrate Competence in Oral and Written Communication. | ERP Portal, Google Classroom, During Orientation or Initial Class Sessions |
| Mechanical Engineering | Dayanand Ghatge | Machine Drawing & CAD | S.Y. Mech | CO1 Draw standard machine elements & its symbols. CO2 Develop Assemble view from details of given component. CO3 Draw details of given machine components from given assembled view CO4 Construct 2D drawing using AutoCAD CO5 Draw 3D views using various Auto-CAD commands. | Practical Session |
| Mechanical Engineering | Dayanand Ghatge | Automobile Engineering | T.Y. Mech | 1. Demonstration of Speed control of DC motor 2. Perform pneumatic & hydraulic Circuit on Trainer kit 3. Write a PLC program using Ladder logic 4. Explain PID controller | Lectures |
| Mechanical Engineering | Dayanand Ghatge | Manufacturing Processes-I | S.Y. Mech | 1. Formulate research models to solve real life problems for allocating limited resources by linear programming. 2. Apply transportation and assignment models to real life situations. 3. Apply queuing theory & replacement mathematical tools regarding performance evaluation of engineering and management systems. 4. Determine the EOQ, ROP and safety stock for different inventory models. 5. Construct a project network using CPM and PERT method. | Lectures |
| Mechanical engineering | Dr. Suresh R. Nipanikar | Non-Conventional Machining | B. Tech Mechanical | CO1: Compare different types of Non-Conventional Machining Processes CO2: Illustrate the working principle of Chemical and Electro-chemical Machining Process CO3: Explain the Thermo-Electric Non-Conventional Machining Processes CO4: Illustrate the working principle of Mechanical Non-Conventional Machining Processes CO5: Illustrate the working principle of Laser Based Machining Processes and Hybrid processes | Course Induction Lecture, Journal file |

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| Mechanical engineering | Dr. Suresh R. Nipanikar | Strength of Materials | S. Y. Mechanical | <p>CO1: Calculate the stress, strain, deformation, bulk modulus, Shear modulus</p> <p>CO2: Differentiate in strain energy stored in a body when the load is suddenly applied and gradually applied</p> <p>CO3: Analyse the bending of various types of beams under static loading conditions and compute the shear stress distribution for different cross sections of beams</p> <p>CO4: Compute the torsion for the circular shaft and analyse the crippling load and equivalent length for various types of columns of different end conditions.</p> <p>CO5: Draw and Compare the shear force and bending moment diagram on beams under varying load conditions.</p> | Course Induction Lecture, Journal file |
| Mechanical Engineering | Aamir M. Shaikh | Fluid Mechanics | SY | <p>Define fluid, define and calculate various properties of fluid</p> <p>Calculate hydrostatic forces on the plane and curved surfaces and explain stability of floating bodies</p> <p>Determine velocity and acceleration of fluid particles</p> <p>Apply Bernoulli's equation and Navier-Stokes equation to simple problems in fluid mechanics</p> <p>Explain various types of flow behaviors</p> <p>Apply dimensional analysis technique to solve problems in boundary layer, drag and lift forces</p> | Print, Website, WhatsApp Gr., Google classroom, Moodle |
| Mechanical Engineering | Aamir M. Shaikh | Finite Element Method | TY | <p>Understand the basic principle of Finite element methods and its applications</p> <p>Understand the elements of elasticity</p> <p>Use matrix algebra and mathematical techniques in FEA</p> <p>Solve one dimensional problem using FEM</p> <p>Solve two-dimensional truss problems using FEM</p> | Print, Website, WhatsApp Gr., Google classroom, Moodle |
| Mechanical Engineering | Malvade Niket Vishnu | Mechatronics | B. Tech Mech | <ol style="list-style-type: none"> 1. Describe sensor, transducer and its applications 2. Explain the signal conditioning and data representation techniques 3. Design pneumatic and hydraulic circuits for a given application 4. Write a PLC program using Ladder logic for a given application 5. Describe microprocessor and micro controller 6. Explain PI, PD and PID controllers for a given application | Lectures |
| Mechanical Engineering | Malvade Niket Vishnu | Mechatronics Lab | B. Tech Mech | <ol style="list-style-type: none"> 1. Demonstration of Speed control of DC motor 2. Perform pneumatic & hydraulic Circuit on Trainer kit 3. Write a PLC program using Ladder logic 4. Explain PID controller | Practical Session |

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| Mechanical Engineering | Malvade Niket Vishnu | Quantitative Techniques in Project Management | T.Y. Mech | <ol style="list-style-type: none"> 1. Formulate research models to solve real life problems for allocating limited resources by linear programming. 2. Apply transportation and assignment models to real life situations. 3. Apply queuing theory & replacement mathematical tools regarding performance evaluation of engineering and management systems. 4. Determine the EOQ, ROP and safety stock for different inventory models. 5. Construct a project network using CPM and PERT method. | Lectures |
| Mechanical | Dr. Ravindra Badiger | Materials Science and Metallurgy | SY Mech | <ol style="list-style-type: none"> 1. Understand various crystal structures and relationship to properties. 2. Interpret the phase diagrams of materials. 3. Describe the concept of heat treatment of steels and surface hardening techniques. 4. Prepare samples of different materials for metallography. 5. Recommend appropriate strengthening mechanism and NDT technique for a given application. | During Lecture |
| Mechanical | Dr. Ravindra Badiger | Engineering Economics | B. Tech | <ol style="list-style-type: none"> 1. Comprehend the principles of economics that govern the operation of any organization and various cost concepts in economic analysis. 2. Understand make or buy scenario and apply the interest formulae to compute the compound interest under different possibilities practiced in businesses. 3. Solve economic problems of cash flow involving comparison and selection of alternatives by using analytical techniques. 4. Apply the concepts of financial management for replacement and maintenance analysis. 5. Understand techniques and methods of depreciation and impact of inflation. | During Lecture |
| Mechanical | Dr. Ravindra Badiger | Basic Himan Rights | SY Mech | <ol style="list-style-type: none"> 1. Understand the historical growth, underlying philosophy, and international context of human rights and be aware of their rights as Indian citizens. 2. Outline the rights of workers, and physically and mentally challenged people and understand the obligations of states to protect individual liberty, freedom, and democracy. 3. Explain the role of NGOs in resolving land, water, and forest issues. 4. Interpret the Preamble of the Indian Constitution and the provisions available. 5. Understand the significance of UDHR and its inclusion in the Indian Constitution. | During Lecture |
| | | Antenna & Wave Propagation | S.Y. (Electronics & Telecommunication Engineering) | <ol style="list-style-type: none"> 1. After successfully completing the course students will be able to understand the applications of electromagnetic engineering 2. Formulate the wave equation and solve it for uniform plane wave. 3. Analyze the given wire antenna and its radiation characteristics. 4. Identify the suitable antenna for a given communication system. | Google Classroom, Lecture |

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| E&TC | Dr. Sunita Vijay Mane | Electronic Devices and Circuits | TY(Electronics & Telecommunication Engineering) | After successfully completing the course students will be able to 1. Explain the architecture and instruction set of Microprocessor 2. Discuss about System Bus Structure for Multiprocessor Configuration 3. Explain the architectures and instruction set of Microcontroller 4. Illustrate the functions of various interfacing devices with Microcontroller 5. Build an assembly language program for interfacing | Google Classroom, Lecture |
| | | Wireless Sensor Networks | B. Tech (Electronics) | At the end of the course the students will be able to: CO1. Understand constraints and challenges, types of wireless sensor networks. | Google Classroom, Lecture |
| E&TC | Mrs Yogita Abhijeet Gharge | Computer network and cloud computing | TY (Electronics) | 1. To master the terminology and concepts of the OSI reference model and the TCP- IP reference model. 2. To master the concepts of protocols, network interfaces, and design/performance issues in local area networks and wide area networks. 3. To be familiar with wireless networking concepts. 4. To be familiar with contemporary issues in networking technologies. 5. To be familiar with network tools and network programming. 6. For a given requirement (small scale) of wide-area networks (WANs), local area networks (LANs) and Wireless LANs (WLANs) design it based on the market available component. 7. For a given problem related TCP/IP protocol developed the network programming. 8. Configure DNS DDNS, TELNET, EMAIL, File Transfer Protocol (FTP), WWW, HTTP, SNMP, Bluetooth, Firewalls using open source available software and tools. | Google Classroom, Lecture |
| | | | Basic electrical and electronics engineering | FY(mech/civil/E&TC) | After successfully completing the course students will be able to 1. Apply basic ideas and principles of electrical engineering. 2. Identify protection equipment and energy storage devices. 3. Differentiate electrical and electronics domains and explain the operation of diodes and transistors. 4. Acquire knowledge of digital electronics 5. Design simple combinational and sequential logic circuits. |
| Civil Engg | Mrs. U V Karande | Building Construction and drawing | SY Civil | On completion of the course, students will be able to: CO1: Describe construction of different types of masonry. CO2: Explain composition of concrete and effect of various parameters affecting strength. CO3: Describe construction of different types of arches, lintels, beams with neat sketches. CO4: Draw plan, elevation and section of components of building such as doors, windows, stairs, considering the principles of planning. CO5: Explain construction of different types of floors and roofs of buildings. | During Lecture |

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| Civil Engg | Mrs. U V Karande | Environmental Engg | SY Civil | Course Outcomes: At the end of the course the students should be able to: CO1: Explain environmental components, characteristics of potable water. CO2: Explain the water treatment concept through basic process designs of treatment units and methods. CO3: Analyze hydraulically distribution network of pipes used for water supply. CO4: Explain wastewater treatment concept and methods. CO5: Describe methods of solid waste management and air pollution controls methods. | During Lecture |
| BSH | Mrs Sunita Rajesh Ballal | Engineerig Mathematics-I | First year | CO1: To know the application of the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problem | Google classroom, Whats App ,In classroom , In tutorial |
| | | | | CO2: To know and apply the concept partial derivatives and solve problems related to partial dderivatives | |
| | | | | CO3: To understand Computation of Jacobian of functions of several variables and their applicatins to Maxima/ minima ,series expansion of multi valued fuctions | |
| | | | | CO4: To identify and sketch of curves in various coordinate system | |
| | | | | CO5: To evaluate multiple integrals and their applications to area and volume | |
| | | Engineerig Mathematics-II | | CO1:To solve problems related to complex numbers by using De Moivre's theorem. | Google classroom, Whats App ,In classroom , In tutorial |
| | | | | CO2:To solve problems related to differential equations of first order and first degree linear differential equation. | |
| | | | | CO3:To solve problems related to linear differential equation with constant coefficient. | |
| | | | | CO4:To determine & solve problems related to Fourier series expansion of periodic functions | |
| | | | | CO5:To demonstrate & solve problems related to vector differential and integral calculus. | |
| BSH | Basic Sciences & Humanities Department | Ms. Ankita Rajaram Kamane | FY B.Tech. | CO1:Explain basic concepts of water treatment & attain knowledge of different softening Methods. | Uploaded on Google Classroom |
| | | | | CO2:Define terms involved in phase rule and explain One & Two Component System. | Orally announced in classroom |
| | | | | CO3:Describe Corrosion Mechanism. | |
| | | | | CO4:Identify Calorific values & Characteristics of good fuel. | |
| | | | | CO5:Explain basic concepts of electrochemistry. | |
| | | FY B.Tech. | CO1: Perform Acid Base titrations, calculations & To do accurate, quantitative measurement. | Uploaded on Google Classroom | |
| | | | CO2: Estimate hardness of water, Dissolved oxygen in water and analyse the result. | Orally announced in classroom & Lab | |

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| | | | | CO3: Develop basic knowledge of the rate of corrosion. | |
| | | | | CO4: Illustrate Acid value of lubricants. | |
| | | | | CO5: Demonstrate process to find Viscosity, saponification number | |
| BSH | Ms.Phadatare S.L. | Basic Science And Humanities | FY B.Tech. | CO 1:Apply the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problem. | F.Y.B.tech (CSE) Engineering Mathematics-I |
| | | | | many engineering problem | |
| | | | | CO 2:Apply the concept of partial derivatives and solve problems related to partial derivatives. | |
| | | | | CO 3:Compute the Jacobian of functions of several variables and their applications to Maxima/ Minima , series expansion of multi valued functions. | |
| | | | | CO 4:Identify and sketch of curves in various coordinate system. | |
| | | | | CO 5:Evaluate multiple integrals and their applications to area and volume. | |
| | | | | CO1:To solve problems related to complex numbers by using De Moivre's theorem. | F.Y.B.tech (CSE,Civil & Mechanical) Engineering Mathematics-II |
| | | | | CO2:To solve problems related to differential equations of first order and first degree linear differential equation. | |
| | | | | CO3:To solve problems related to linear differential equation with constant coefficient. | |
| | | | | CO4:To determine & solve problems related to Fourier series expansion of periodic functions | |
| | | | | CO5:To demonstrate & solve problems related to vector differential and integral calculus. | |
| | | | | CO1:Solve problems related to Laplace transform. | S.Y.B.tech (Civil) Engineering Mathematics-III |
| | | | | CO:2Solve problems related to inverse Laplace transform and their applications. | |
| | | | | CO3:Evaluate the integral & solve the problems related to Fourier Transform | |
| | | | | CO4:To solve the problems related to partial differential equations and their applications . | |
| CO5:Evaluate the integration of complex function in the study of electrostatics and signal processing. | | | | | |
| | | Engineering Mechanics | | CO1 : Interpret and apply fundamentals of engineering mechanics | |
| | | | | CO2 : Identify and apply Conditions of Static Equilibrium to analyse given force system | |
| | | | | CO3 : Identify the type of motion and compute the motion characteristics of a body/particle | |
| | | | | CO4 : Compute the forces acting on rigid body during translation motion. 1,2 | |
| | | | | CO5 : Identify and discuss work done by a force on rigid body and bodies in motion | |
| | | | | CO1 : Identify conventional energy sources | |
| | | | | CO2 : Identify non-conventional energy sources | |

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|--------------------|--|------------------------------------|------------|---|--|--|---|
| BSH | Mr. Alok Bharat Kadam | Energy and Environment Engineering | FY B.Tech. | CO3 : Discuss power consuming and power developing devices for effective utilization and power consumption | F Y B.Tech | | |
| | | | | CO4 : Identify various sources of air, water pollution and its effects. | | | |
| | | Engineering Mechanics Lab | | CO5 : Discuss noise, soil, thermal pollution and Identify solid, biomedical and hazardous waste. | | | |
| | | | | CO1 : Apply Conditions of Static Equilibrium to analyze given force system | | | |
| | | | | CO2 : Compute the coefficient of friction for different conditions | | | |
| | | | | CO3 : Compute Centre of gravity and Moment of Inertia of Plane surface | | | |
| | | | | CO4 : Compute the motion characteristics of a body or particle | | | |
| | | | | CO5 : Identify the law of machine for different types of machines | | | |
| BSH | Ms.Ghadage V.S. | Engineering Mathematics-I | FY B.Tech. | CO 1:Apply the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problem. | F.Y.B.tech (E&TC) | | |
| | | | | | | many engineering problem | |
| | | | | | | CO 2:Apply the concept of partial derivatives and solve problems related to partial derivatives. | |
| | | | | | | CO 3:Compute the Jacobian of functions of several variables and their applications to Maxima/ Minima , series expansion of multi valued functions. | |
| | | | | | | CO 4:Identify and sketch of curves in various coordinate system. | |
| | | | | | CO 5:Evaluate multiple integrals and their applications to area and volume. | | |
| | | Engineering Mathematics-II | FY B.Tech. | FY B.Tech. | CO1:To solve problems related to complex numbers by using De Moivre's theorem. | F.Y.B.tech (E&TC) | |
| | | | | | | | CO2:To solve problems related to differential equations of first order and first degree linear differential equation. |
| | | | | | | | CO3:To solve problems related to linear differential equation with constant coefficient. |
| | | | | | | | CO4:To determine & solve problems related to Fourier series expansion of periodic functions |
| | | | | | | | CO5:To demonstrate & solve problems related to vector differential and integral calculus. |
| | | Engineering Mathematics-III | FY B.Tech. | FY B.Tech. | CO1:Solve problems related to Laplace transform. | S.Y.B.tech (E&TC) And Mech | |
| | CO:2Solve problems related to inverse Laplace transform and their applications. | | | | | | |
| | CO3:Evaluate the integral & solve the problems related to Fourier Transform | | | | | | |
| | CO4:To solve the problems related to partial differential equations and their applications . | | | | | | |
| | CO5:Evaluate the integration of complex function in the study of electrostatics and signal processing. | | | | | | |
| | Dr. S.K Shaikh | Engineering Physics | | 1. CO1:Explain different types of oscillations,estimate problems based on concept | Google classroom (FY Btech CSE) | | |

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| BSH | Dr. S.K Shaikh | Engineering Physics | FY B.Tech. | 1. CO1: Explain different types of oscillations, estimate problems based on concept | Google classroom (FY Btech Mechanical & Civil) |
| BSH | Mrs.U.S.Jagadale | Communication Skills | FY B.Tech. | CO1. To know and apply speaking and writing skills in professional as well as social situations. | FY.B.tech Civil,, |
| | | | | CO2. To know and apply communication skills for Presentations, Group Discussions, interpersonal interactions and Public Speaking. | Fy B.techMech |
| | | | | CO3. To overcome Mother Tongue Influence and demonstrate a neutral accent while exercising English. | FY B.TechCSE |
| | | | | CO4. To know and apply grammar correctly during Speaking and Writing situations, | |
| | | | | CO5. To develop Business Correspondence: Business letter writing, Report writing, Email Drafting, Job Application Letter | |
| | Mrs.U.S.Jagadale | Communication Skills | FY B.Tech. | PO5. Moderately mapped as students will be able to understand concepts of Communication and its forms | FY.B.tech Civil,, |
| | | | | PO6. Slightly mapped as students will be able to identify different Barriers to communication and overcome them . | Fy B.techMech |
| | | | | PO8. Slightly mapped as the students will be able to understand the basics of reading and the barriers to reading | FY B.TechCSE |
| | | | | PO9. Moderately mapped Students will be able to understand the basics of listening and barriers to listening | |
| | | | | PO10. Strongly mapped as the student will be able to understand the concept of group discussion and practice of GD. | |
| | | | | PO11. Slightly mapped as the student will be able to give a public speech. | |
| | | | | PO12. Moderately mapped as students will be able to identify different Barriers to communication and overcome them. | |
| | | | | PO4 1 Slightly mapped as the student will be able to appear for Interview. | |
| | | | | PO5 Slightly mapped as Students will be able to use Non-verbal Communication in their Presentation. | |
| PO9 Slightly mapped as the student will be able to work effectively as an individual and as a member of the team during submissions of assignments, and tutorials. | | | | | |
| PO10 3 Strongly mapped as students will be able to read, understand and interpret technical and non-technical information. | | | | | |
| CO3 PO5 1 Slightly mapped as students will be able to understand the phonemic symbols and use them in their day-to-day communication | | | | | |
| | | Engg. Physics | FY B.Tech. | CO1: Explain different types of oscillations, estimate problems based on concept of ultrasonic & their use in some industrial applications. CO2: Memorize the basic concepts of the laser, fibre optics and polarization, connect it to few engineering applications. CO3: Explain concepts of electron optics, nuclear Physics, and quantum mechanics. Relate them to some applications of physics. | Google Classroom, Offline in class F. Y. B. Tech. (E & TC) |

| Name of Department | Name Of Faculty | Name of subject | Class | List Of course Outcomes | Mechanism of communication to students |
|--------------------|----------------------|-----------------------------|--------------------------------|--|--|
| BSh | Ms. Pawar Kasturi | | | CO4: Recall fundamentals of crystal structure and extend the knowledge of X-ray diffraction and electrodynamics with their Engineering Application. CO5: Summarize fundamentals of magnetism, semiconducting materials & superconductivity to explore the technological applications. | F. Y. B. Tech. CSE (Div. D) |
| | | Engg. Physics | FY B.Tech. | CO1: Discuss the I-V characteristic and band gap energy of semiconductor. CO2: Extend the knowledge of basic concepts of LASER. CO3: Memorize the concept of Crystal Structures. CO4: Demonstrate the knowledge of half shade Polarimeter, plane diffraction grating. CO5: Describe the basic knowledge of Wedge Shaped Film and Newton's rings. | Google Classroom, Offline in classF. Y. B. Tech. (E & TC) F. Y. B. Tech. CSE (Div. D) |
| BSH | Mrs. Jyoti R. Mohite | Engineering Mechanics | F.Y. CSE & E & TC (Sem I & II) | CO1 : Interpret and apply fundamentals of engineering mechanics CO2 : Identify and apply Conditions of Static Equilibrium to analyse given force system CO3 : Identify the type of motion and compute the motion characteristics of a body CO4 : Compute the forces acting on rigid body during translation motion. CO5 : Identify and discuss work done by a force on rigid body and bodies in motion | |
| BSH | Mrs. Jyoti R. Mohite | Engineering Mechanics Lab | F.Y. CSE & E & TC (Sem I & II) | CO1 : Apply Conditions of Static Equilibrium to analyze given force system CO2 : Compute the coefficient of friction for different conditions CO3 : Compute Centre of gravity and Moment of Inertia of Plane surface CO4 : Compute the motion characteristics of a body or particle CO5 : Identify the law of machine for different types of machines | |
| BSH | BABAR YOGITA VIKRAM | Engineering Chemistry | FY B.TECH | CO1:Explain basic concepts of water treatment & attain knowledge of different softening Methods. 2.CO2: Define terms involved in phase rule and explain One & Two Component System 3.CO3:Describe Corrosion Mechanism 4. CO4:Identify Calorific values & Characteristics of good fuel 5.CO5:Explain Basic concepts of electrochemistry | GOOGLE CLASSROOM, |
| BSH | Mrs.Jadhav P.A. | Engineering Mathematics-I | F.Y.B.tech (Civil and Mech) | CO 1:Apply the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problem. CO 2:Apply the concept of partial derivatives and solve problems related to partial derivatives. CO 3:Compute the Jacobian of functions of several variables and their applications to Maxima/ Minima , series expansion of multi valued functions. CO 4:Identify and sketch of curves in various coordinate system. CO 5:Evaluate multiple integrals and their applications to area and volume. | Present In classroom |
| | | Engineering Mathematics-III | S.Y.B.tech (CSE) | CO1:Solve problems related to Laplace transform. CO:2Solve problems related to inverse Laplace transform and their applications. CO3:Evaluate the integral & solve the problems related to Fourier Transform CO4:To solve the problems related to partial differential equations and their applications . | Present In classroom |

| Name of Department | Name Of Faculty | Name of subject | Class | List Of course Outcomes | Mechanism of communication to students |
|--------------------|-------------------------|----------------------------|------------------|--|---|
| | | | | CO5:Evaluate the integration of complex function in the study of electrostatics and signal processing. | |
| | | Probability and Statistics | S.Y.B.tech (CSE) | Discuss the concepts of the fundamental Probability Theory, Baye's theorem | shared in google classroom |
| | | | | Discuss the concepts of Mathematical Expectations, Theoretical probability distributions with Fitting of binomial , poisson and Normal distribution. | |
| | | | | Discuss the concepts of covariance, correlation and regression . | |
| | | | | Analyze the linear and non-linear regression, angle between the regression, regression coefficient | |
| | | | | Estimation of population mean ,population proportion ,Testing Hypothesis. | |
| BSh | Dr. Patil Papat Devidas | Communication Skills | F.Y. B.Tech. | <ol style="list-style-type: none"> 1. Students would be more confident while using English 2. Engage in analysis of speeches or discourses and several articles 3. Identify and control anxiety while delivering speech 4. Write appropriate communications(Academic/Business) 5. Prepared to take the examinations like GRE/TOFEL/IELTS 6. Identify and control the tone while speaking 7. Develop the ability to plan and deliver the well-argued presentations | Google Classrrom, College ERP System |