



Lokmanya Tilak Jankalyan Shikshan Sanstha's
Priyadarshini Bhagwati College of Engineering, Nagpur

Harpur Nagar, Umred Road, Nagpur-440024

(An Autonomous Institution Affiliated to RTM Nagpur University, Nagpur)

Accredited with Grade 'A' by NAAC

E-mail: principalpbcoe@gmail.com Website: www.pbcoe.edu.in



Course Outcomes

Department of B. Tech. First Year		
Course : Engineering Mathematics-I		Course Code: SMAT101T SAR Code: C101
Class: B. Tech. First sem		Session : 2024-25
Students will able to		BT Level
CO1	Build an ability to use the essential tool of matrices and linear algebra in a comprehensive manner for analysis of system of linear equation.	L3
CO2	Apply numerical methods to obtain approximate solutions to mathematical problems. Demonstrate understanding of various numerical methods.	L3
CO3	Determine n^{th} derivative of standard function using Leibnitz theorem, limits in indeterminate forms by repeated use of L'Hôpital rule.	L3
CO4	Apply the concept of Jacobian, Euler's theorem to find partial derivative of implicit function and function of several variable respectively and functional dependence.	L3

Name and Sign of Subject In charge

Dr. (Mrs.) S. R. Suple





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Course Outcomes

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Class: B. Tech. First sem		Session : 2024-25	
Students will able to			BT Level
CO1	Build an ability to use the essential tool of matrices and linear algebra in a comprehensive manner for analysis of system of linear equation.		L3
CO2	Determine n^{th} derivative of standard function using Leibnitz theorem, Maxima and Minima, Critical points of Functions of one variable		L3
CO3	Analyze & Solve First order ordinary differential equation using integrating factor and recognize the practical importance of solving differential equation		L3
CO4	Analyze & Solve Higher order linear differential equation using appropriate technique for modeling and analyzing electrical circuits		L3

Name and Sign of Subject In charge

Dr. (Mrs.) S. R. Suple





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**PRIYADARSHINI BHAGWATI COLLEGE OF
ENGINEERING, NAGPUR**


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Course Outcomes

Department of B. Tech. First Year		
Course : Applied Chemistry		Course Code: CH102T
Class: B. Tech. First sem		Session : 2024-25
Students will able to		
CO		BT
CO1	<i>Explain</i> water treatment methods and <i>illustrate</i> the industrial applications.	2
CO2	<i>Analyze</i> microscopic chemistry in terms of molecular orbitals and intermolecular forces, and <i>Discuss</i> bulk properties using thermodynamic principles	2, 4
CO3	<i>Apply</i> principles of tribology to reduce friction and wear in engineering processes	3
CO4	Apply electrochemical concepts and understand the corrosion behavior. Discuss various corrosion prevention and control methods for practical applications	2,3


Signature of Subject Incharge

Dr. A.C. Haldar



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Course Outcomes

Department of B. Tech. First Year		BT Level
Course : Applied Physics		Course Code: PH103T
Class: B. Tech. First Sem		Session : 2024-25
Students will able to		
C01	Analyze the phenomenon of interference and evaluate its practical applications in optical measurement.	L3
C02	Apply the concepts of electron optics to understand the working of various electro-optic device.	L2, L3
C03	Explain the fundamental processes of light-matter interaction and analyze the necessary conditions for population inversion and lasing action in various laser systems with its application	L3
C04	Explain the concepts of quantum mechanics describe various phenomenon such as Compton effect, wave packets, Heisenberg's uncertainty principle, etc.	L2

Name and Sign of Subject Incharge

Dr. U. V. Chakraborty

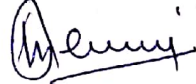
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Course Outcomes

Department of B. Tech. First Year		
Course : Communication Skills	Course Code: HU107T	SAR Code: C104
Class: B. Tech. First sem	Session : 2024-25	
Students will able to		BT Level
CO1	Express knowledge of basic language skill- Listening Speaking Reading and Writing i.e they will coordinate, collaborate and corroborate through LSRW Skills and overcome barriers to communication.	L2
CO2	Prepare themselves to face challenges of competitive examinations by developing vocabulary. Moreover, they will confidently exhibit their technical proficiency through effective PPTs and Professional conduct	L3
CO3	Apply and demonstrate knowledge of effective speaking skills to handle various group situations professionally. Students would comprehend passages by identifying role of effective reading techniques	L3
CO4	Design/draft business letters/resumes in correct format, organize and express their thoughts effectively through written communication.	L3


Name and Sign of Subject In charge
Dr. V. M. Athani

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Course Outcomes

Department of B. Tech. First Year		
Course : Engineering Graphics	Course Code: ME104T	SAR Code: C105
Class: B. Tech. First sem	Session : 2024-25	
Students will be able to		BT Level
CO1	Represent detailed conceptual knowledge about the dimensioning, specifications and conventions. Construct the various engineering curves using the drawing instruments and basic of orthographies projection through drawing the projection of point and line.	L3
CO2	Draw the projection of planes and solids.	L3
CO3	Draw and interpret the sectioned views and developments of various solids	L3
CO4	Draw a simple isometric projection view from given orthographic views	L3

Name and Sign of Subject In charge

Mr. Swapnil J. Bhadani





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Course Outcomes

Department of B. Tech. First Year		
Course: Computer Fundamentals		Code: CSE105T SAR Code: C106
Class: B. Tech. First sem		Session : 2024-25
Students will able to		BT Level
CO1	Use the computer for basic purpose of everyday tasks and Create, edit word documents effectively.	L2, L3
CO2	Create and process the spreadsheet effectively along with mathematical function.	L3
CO3	Design presentation, use graphics and animation to enhance a presentation.	L3

Name and Sign of Subject In charge
(Mrs. P. L. Katoze)





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Course Outcomes

Department of B. Tech. First Year		
Course : Computer Fundamentals		Code: IT105T SAR Code: C107
Class: B. Tech. First sem		Session: 2024-25
Students will able to		BT Level
C01	Use the computer for basic purpose of everyday tasks and Create, edit word documents effectively.	L2, L3
C02	Create and process the spreadsheet effectively along with mathematical function.	L3
C03	Design presentation, use graphics and animation to enhance a presentation.	L3

Name and Sign of Subject In charge

(Mrs. P. L. Katore)





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Course Outcomes

Department of B. Tech. First Year		
Course : Basic Electronics		Code: EC105T
Class: B. Tech. First sem		SAR Code: C108
		Session: 2024-25
Students will able to		BT Level
CO1	Describe the fundamental concepts of electronics including signals, systems, types of communication, and applications of electronics in real-world fields.	L1, L2
CO2	Identify and classify various active and passive components such as resistors, capacitors, diodes, transistors, displays, sensors, and actuators used in electronic systems.	L1, L2
CO3	Apply Ohm's Law, KVL, and KCL to solve basic electrical circuits, and analyze them using circuit rules like Voltage Divider and Current Division.	L3, L4
CO4	Demonstrate the use of electronic instruments such as multimeters, function generators, CROs, and power supplies to measure and test electronic components and waveforms.	L3

Name and Sign of Subject In charge

(Sapana A. Bhande)






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Course Outcomes

Department of B. Tech. First Year		
Course Basics of Mechanical Engineering		Course Code: ME105T SAR Code: C109
Class: B. Tech. First sem		Session : 2024-25
Students will able to		BT Level
CO1	Describe and explain the working principles of different mechanical power transmission systems, including gears, belts, and chains.	L2
CO2	Analyze various production processes, visualize casting techniques, and evaluate the significance of different metal-forming processes in manufacturing.	L3
CO3	Apply fundamental concepts of Thermal Engineering to practical scenarios, including heat transfer methods and thermodynamic principles, to solve engineering problems.	L3
CO4	Apply operational techniques and quality control tools, and recommend effective methods for improving production efficiency and enhancing product quality	L3


Name and Sign of Subject In charge

Dr. S.P. Guroay





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Course Outcomes

Department of B. Tech. First Year		
Course : Engineering Mechanics	Course Code: CE105T	SAR Code: C110
Class: B. Tech. First sem	Session : 2024-25	
Students will able to		BT Level
CO1	Describe the fundamental concepts of statics and dynamics and find effect of forces on body.	L3
CO2	Apply the basic concept of equilibrium for solution of problems on plane and General spatial force system.	L4
CO3	Determine the centroid, moment of inertia of plane area and Apply the concept of friction for solving the problems.	L3

Name and Sign of Subject In charge

Dr. A. M. Sorte





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Practical Course Outcomes

Department of B. Tech. First Year		
Course : Engineering Mathematics-I Lab Code: SMAT101P SAR Code: C111		
Class: B. Tech. First sem Session : 2024-25		
Students will able to		BT Level
C01	Build an ability to use SAGEMATH coding for evaluating different matrix operations like addition, subtraction, inverse, ad joint, determinant as well as square and cube of matrix.	L2, L3
C02	Apply SAGEMATH coding for finding Eigen values and Eigen Vector, diagonal form of matrix as well as solution of simultaneous linear equations.	L3, L4
C03	Make use of SAGEMATH coding to obtain approximate solutions to mathematical problems using Numerical methods.	L3
C04	Build an ability to apply computer Knowledge such as SAGEMATH coding to determine successive derivative of standard function, limits in indeterminate forms.	L3
C05	Develop an ability to use SAGEMATH coding to find Maxima and Minima, Critical points of Functions of one variable.	L3

Name and Sign of Subject In charge

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Practical Course Outcomes

Department of B. Tech. First Year		
Course : Engineering Mathematics-I Lab		Code: CMAT101P SAR Code: C111
Class: B. Tech. First sem		Session: 2024-25
Students will able to		BT Level
C01	Develop an ability to use SAGEMATH coding for evaluating different matrix operations like addition , subtraction, inverse, adjoint, determinant as well as square and cube of matrix.	L2, L3
C02	Apply SAGEMATH coding for finding Eigen values and Eigen Vector, diagonal form of matrix as well as solution of simultaneous linear equations.	L3, L4
C03	Build an ability to apply computer knowledge such as SAGEMATH coding to determine successive derivative of standard function, limits in indeterminate forms.	L3
C04	Make use computer knowledge such as SAGEMATH coding to determine Maxima and Minima, Critical points of Functions of one variable etc	L3
C05	Apply SAGEMATH coding to obtain the solutions of first order linear differential equations as well as higher order differential equations with constant coefficient of engineering importance.	L3, L4


Name and Sign of Subject In charge

Dr. (Mrs.) S. R. Suple





Practical Course Outcomes

Department of B. Tech. First Year		BT Level
Course : Applied Physics Lab		Code: PH103P
Class: B. Tech. First Sem		Session : 2024-25
Students will able to		
C01	Apply the principles of thin-film interference to determine the wavelength of light and the radius of curvature of a plano-convex lens using experimental techniques.	L3
C02	Analyze the working principle of various optical device, the transmission grating, and apply it to determine the wavelength of a visible light source.	L3
C03	Apply CRO measurement techniques to analyse sinusoidal, triangular, and square waveforms and calculate their RMS and average voltage values.	L2, L3
C04	Operate a Cathode Ray Oscilloscope (CRO) to visualize waveforms and apply Lissajous patterns and dual-trace methods to calculate the phase difference and frequency ratio between two electrical signals.	L2, L4
C05	Ensure accurate physical measurements through disciplined methodology and sustainable laboratory awareness.	L3

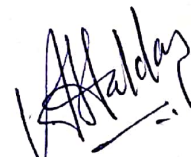
Name and Sign of Subject Incharge

Dr. U. V. Gaikwad



Course Outcomes

Department of B. Tech. First Year		
Course : Applied Chemistry		Subject Code: CH102P
Class: B. Tech. First Sem		Session : 2024-25
Students will able to		
CO		BT
CO1	Measure molecular/system properties such as concentration, surface tension, and viscosity. etc.	5
CO2	Estimate soluble impurities present in a given water sample	5
CO3	Analyze the relationship between viscosity and temperature for liquid petroleum products	4
CO4	Evaluate the quality of lubricating oil based on acid value	5
CO5	Analyze the relationship between absorbance and concentration using the calibration curve	4


Signature of Subject Incharge
(Dr. A-C. Haldar)



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Practical Course Outcomes

Department of B. Tech. First Year		
Course: Engineering Graphics Lab	Course Code: ME104P	SAR Code: C114
Class: B. Tech. First sem	Session: 2024-25	
Students will able to		BT Level
CO1	Draw the fundamental engineering objects using basic rules and able to construct the lines, simple geometries, construct the various engineering curves using the drawing instruments.	L3
CO2	Draw two dimensional and three-dimensional objects, precisely using drawing instruments.	L3
CO3	Draw the development of lateral surfaces for cut section of geometrical solids, precisely using drawing instruments.	L3
CO4	Draw a simple isometric projection from given orthographic views precisely using drawing equipment.	L3

Name and Sign of Subject In charge

Mrs. Swapnil .T. Bhadani





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Practical Course Outcomes

Department of B. Tech. First Year		
Course : Computer Hardware and Networking Lab Course Code: CSE106P SAR Code: C115		
Class: B. Tech. First sem		Session : 2024-25
Students will able to		
C01	Connect computer peripherals by identifying their matching internal and external ports	L2
C02	Explain computer system architecture and components	L2
C03	Configure a computer network to share files, printers, and other resources	L3
C04	Analyze hardware and software issues in computer systems to identify system problems	L4
C05	Configure, upgrade, and maintain computer systems by performing routine preventive maintenance	L3

Name and Sign of Subject In charge

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Practical Course Outcomes

Department of B. Tech. First Year		
Course: Computer Hardware and Networking Lab		Code: IT105P SAR Code: C116
Class: B. Tech. First sem		Session: 2024-25
Students will able to		BT level
C01	Connect computer peripherals by identifying their matching internal and external ports	L2
C02	Explain computer system architecture and components	L2
C03	Configure a computer network to share files, printers, and other resources	L3
C04	Analyze hardware and software issues in computer systems to identify system problems	L4
C05	Configure, upgrade, and maintain computer systems by performing routine preventive maintenance	L3

Name and Sign of Subject In charge

(Mrs. P. L. Katore)





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Practical Course Outcomes

Department of B. Tech. First Year		
Course : Electronics Measurement and Testing Lab Code: EC106P SAR Code:C117		
Class: B. Tech. First sem		Session: 2024-25
Students will able to		BT Level
C01	Identify basic electronic components like resistors, capacitors, and inductors and describe their physical characteristics.	L1
C02	Describe the working principle and basic construction of semiconductor devices such as diodes and transistors.	L2
C03	State Ohm's law and explain the theoretical relationship between voltage, current, and resistance in a circuit.	L2
C04	Define Kirchhoff's Voltage Law (KVL) and Kirchhoff's Current Law (KCL) and illustrate their use in simple networks.	L2
C05	List various electronic measuring instruments and explain their specific functions in circuit testing.	L2

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(Sapana A. Bhande)



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Practical Course Outcomes

Department of B. Tech. First Year		
Course : Basic Mechanical Engineering Lab		Course Code: ME106P SAR Code: C118
Class: B. Tech. First sem		Session : 2024-25
C01	Summarize manufacturing processes.	L2
C02	Summarize applications of power transmitting elements.	L2
C03	Interpret different machine tools and thermal machines.	L2
C04	Study various operating characteristics of hydraulic turbine and pumps.	L1
C05	Describe refrigeration and air conditioning systems.	L1


Name and Sign of Subject In charge
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Practical Course Outcomes

Department of B. Tech. First Year		
Course : Construction Practices-I Lab		Course Code: CE106P
		SAR Code: C119
Class: B. Tech. First sem		Session : 2024-
25	Students will able to	BT Level
CO1	Use measuring tape to measure length, area and volume.	L3
CO2	Recognize and sketch building components.	L3
CO3	Differentiate between various steel sections.	L3
CO4	Use various tools in construction.	L3
CO5	Identify and explain the quality of materials used in construction.	L3

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Practical Course Outcomes

Department of B. Tech. First Year		
Course: Liberal Learning Lab (Soft Skills) Course Code: LL108P SAR Code: C120		
Class: B. Tech. First sem		Session : 2024-25
Students will able to		
C01	Identify the importance of effective communication and modify the ability to communicate convincingly and professionally in various settings, including group discussions.	L1
C02	Apply brainstorming and decision-making skills, encouraging the generation of innovative ideas and fostering effective collaboration in group settings.	L3
C03	Prepare key business etiquette, interpersonal skills, and leadership qualities to work effectively in team settings.	L3
C04	Construct goal-setting techniques to improve individual effectiveness and productivity, contributing to personal and professional growth.	L3
C05	Identify the importance of effective communication and modify the ability to communicate convincingly and professionally in various settings, including group discussions.	L1

Name and Sign of Subject In charge

Dr. V. M. Ahir

