



Dr. D Y Patil Pratishthan's

**D. Y. PATIL COLLEGE OF ENGINEERING,
AKURDI, PUNE - 44**

An Autonomous Institute
Accredited By NBA & NAAC 'A' Grade

First Year B. Tech

Academic Year 2024-25

"STUDENT GUIDELINE BOOKLET"



Sector 29, Nigdi Pradhikaran, Akurdi, Pune 411044

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VISION

"Empowerment Through Knowledge"

MISSION

- M1 - To educate the students to transform them as professionally competent and quality conscious engineers
 - M2 - To Provide Conducive Environment for Teaching Learning and overall personality development
 - M3 - To culminate the Institute into an International seat of excellence
-

FIRST YEAR VISION

- To provide a foundation for the students in Engineering Research and overall development

FIRST YEAR MISSION

- Delivering and administering an innovative first –year engineering program that undergoes continuous assessment and revision.
- To create an environment conducive for academic growth and career development for all students so as to achieve excellence in their chosen field.
- To develop and encourage the originality, creativity and professional leadership among the students.



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COLLEGE INFORMATION

Founder	: His Excellency Pad. Dr. D. Y. Patil (Former Governor of Bihar, Govt. of India)
President	: Dr. Sanjay. D. Patil Vice Chancellor – Dr. D. Y. Patil University Kolhapur
Vice-President Dr. D. Y. Patil Pratisthan & Campus Chairman Dr. D.Y.Patil Educational Complex, Akurdi, Pune	: Shri. Satej D. Patil MLC, Legislative Counsel Maharashtra State
Trustee Dr. D.Y.Patil Educational Complex, Akurdi, Pune	: Mr. Tejas S. Patil
Campus Director Dr. D. Y. Patil Pratishthan’s Educational Complex, Akurdi, Pune	: RAdm. Amit Vikram (Retd.)
Principal	: Dr. (Mrs.) P. Malathi
HOD-First Year B.Tech Dept.	: Dr. Manisha Tanwar
Postal Address of the Institute:	Sector No. 29, Nigdi Pradhikaran, Akurdi, Pune – 411 044. State – Maharashtra
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Facebook page	: https://facebook.com/dypakurdipune
Instagram handle	: https://www.instagram.com/dypcoe_ak/
Twitter handle	: https://twitter.com/dypakurdipune
YouTube	: https://www.youtube.com/channel/

About First Year B. Tech. Department.....

"The value of a college education is not the learning of many facts but the training of the mind to think "by Albert Einstein

D Y Patil College of Engineering is catering to 8 streams of Engineering – Computer, Civil, Mechanical, Information Technology, Artificial Intelligence & Data Science, Robotics & Automation, Instrumentation & Control and Electronics & Telecommunication. First Year of B. Tech is common to all the Branches of Engineering and thus, First Year is a separate department called First Year B. Tech Department.

The First Year B. Tech Department fulfils the academic and personal needs of all First Year students by helping them to prepare for their arrival at DYPCOE, Akurdi, by planning and providing advice and counseling throughout the entire first year.

The first-year engineering (FY) syllabus, meticulously designed to align with the NEP 2020 and effective from the academic year 2024-25. The curriculum is structured to provide a robust foundation through Basic Science Courses and Engineering Science Courses. It also integrates Vocational and Skill Enhancement Courses, Ability Enhancement Courses, the Indian Knowledge System, and co-curricular Liberal Learning courses. This comprehensive approach aims to cultivate well-rounded engineers who are adaptable to Internationalization.

We follow certain procedures for enhancing the academic performance of the students like conducting continuous comprehensive assessment, makeup classes remedial classes, etc. For overall development of the students we conduct various co-curricular & extra-curricular activities like industrial visit, guest lecturers, technical competitions, Sport events, Debate competition and Cultural days for boosting their technical knowledge, developing their soft skills and personality.

To provide guidance to the First Year students, a team of experienced and well qualified teachers are working with students to excel them in each and every subject they learn.

Outcome Based Education (OBE)

Outcome-Based Education (OBE) is an educational model that forms the base of a quality educational system targets at achieving desirable outcomes (in terms of knowledge, skills, attitudes and behavior) at the end of a program. There is no single specified style of teaching or assessment in OBE. Teaching with this awareness and making the associated effort constitutes outcome-based education. All educational activities carried out in OBE should help the students to achieve the set goals. OBE enhances the traditional methods and focus on what the Institute provides to students. OBE provides clear standards for observable and measurable outcomes

Benefits of OBE:

- ✓ **Clarity:** The focus on outcome/ creates a clear expectation of what needs to be accomplished by the end of the course.
- ✓ **Flexibility:** With a clear sense of what needs to be accomplished, instructors will be able to structure their lessons around the student's needs.
- ✓ **Comparison:** OBE can be compared across the individual, class, batch, Program and Institute levels.
- ✓ **Involvement:** Students are expected to do their own learning. Increased student involvement allows students to feel responsible for their own learning, and they should learn more through this individual learning.

Program Outcomes (POs)

PO 1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

• **PO 2: Problem Analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

• **PO 3: Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

• **PO 4: Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

• **PO 5: Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

• **PO 6: The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

• **PO 7: Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

• **PO 8: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

• **PO 9: Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

• **PO 10: Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

• **PO 11: Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

• **PO 12: Life-Long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Syllabus Structure – F. Y. B. Tech 2024-25

First Year B. Tech Semester I													
Course Code	Course Type	Course	Teaching Scheme				Evaluation Scheme						
			L (Hr)	T (Hr)	P (Hr)	Cr	Exam	Theory Marks			Practical Marks		
								Max. Mark	Min Marks for Passing		Max Mark	Min Marks for Passing	
BSC2401L01-03/ BSC2401L04-06	BSC 1/2	Engineering Physics/Chemistry	3	0	0	3	CCA	50	20	40			
							ESE	50	20				
BSC2401P07/ BSC2401P08	BSC 1/2	Engineering Physics/Chemistry Lab	0	0	2	1	CCA				100	40	
BSC2401L09-11	BSC 3	Linear Algebra and Differential Calculus	3	1	0	4	CCA	50	20	40			
							ESE	50	20				
ESC2401L01-02/ ESC2401L03	ESC 1/2	Applied Mechanics/Electrical and Electronics Engineering	3	0	0	3	CCA	50	20	40			
							ESE	50	20				
ESC2401P04-05/ ESC2401L06	ESC 1/2	Applied Mechanics/Electrical and Electronics Engineering Lab	0	0	2	1	CCA				100	40	
ESC2401L07/ ESC2401L08	ESC 3/4	Engineering Graphics and Computer Aided Drafting /Programming and Problem Solving	2	0	0	2	CCA	50	20	40			
							ESE	50	20				
ESC2401P09/ ESC2401P10	ESC 3/4	Engineering Graphics and Computer Aided Drafting Lab/ Programming and Problem Solving Lab	0	0	2	1	CCA				100	40	
VSC2401P01	VSE C1	Experiential Learning I	0	1	2	2	CCA				100	40	
HSM2401P01	AEC 1	Professional and Technical Communication	0	1	2	2	CCA				100	40	
LLC2401P01	CC1	Liberal Learning I/ Liberal Learning II	0	1	2	2	CCA				100	40	
Total Credits			11	4	12	21							

Syllabus Structure – F. Y. B. Tech 2024-25

First Year B. Tech Semester II												
Course Code	Course Type	Course	Teaching Scheme				Evaluation Scheme					
			L (Hr)	T (Hr)	P (Hr)	Cr	Exam	Theory Marks			Practical Marks	
								Max. Mark	Min Marks for Passing	Max Mark	Min Marks for Passing	
BSC2402L01-03/ BSC2402L04-06	BSC1/2	Engineering Physics/Chemistry	3	0	0	3	CCA	50	20	40		
							ESE	50	20			
BSC2402P07/ BSC2402P08	BSC1/2	Engineering Physics/Chemistry Lab	0	0	2	1	CCA				100	40
BSC2402L09-11	BSC4	Differential Equation and Integral Calculus	3	1	0	4	CCA	50	20	40		
							ESE	50	20			
ESC2402L01-02/ ESC2402L03	ESC1/2	Applied Mechanics/Electrical and Electronics Engineering	3	0	0	3	CCA	50	20	40		
							ESE	50	20			
ESC2402P04-05/ ESC2402L06	ESC1/2	Applied Mechanics/Electrical and Electronics Engineering Lab	0	0	2	1	CCA				100	40
ESC2402L07/ ESC2402L08	ESC3/4	Engineering Graphics and Computer Aided Drafting /Programming and Problem Solving	2	0	0	2	CCA	50	20	40		
							ESE	50	20			
ESC2402P09/ ESC2402P10	ESC3/4	Engineering Graphics and Computer Aided Drafting /Programming and Problem Solving Lab	0	0	2	1	CCA				100	40
XXX2402L01	PCC1	Program Specific Core Course	2	0	0	2	CCA	50	20	40		
							ESE	50	20			
VSC2402P02	VSEC2	Experiential Learning II	0	1	2	2	CCA				100	40
HSM2402L02	IKS	Science and Engineering of Ancient India	2	0	0	2	CCA				100	40
LLC2402P02	CC2	Liberal Learning I/ Liberal Learning II	0	1	2	2	CCA				100	40
Total Credits			15	3	10	23						

Examination Scheme

Assessment and Evaluation of Courses under F. Y. B. Tech

A) Scheme for Theory Examination:

Component	Level	Unit 1	Unit 2	Unit 3	Unit4	Unit5	Total	Passing Marks
Continuous Comprehensive Assessment (CCA)	Faculty	05	05	05	05	05	25	20
	Department	05	05	05	05	05	25	
		Unit Test 1 (UT1)			Unit Test 2(UT2)			
End Semester Examination (ESE)	Institute	10	10	10	10	10	50	20

B) Scheme for Practical Evaluation:

Component	Level	Parameters	Marks	Total	Passing Marks
CCA	Progressive Evaluation	Understanding Viva Voce	20	50	20
		Involvement, Participation, and Engagement	10		
		Quality of Submission of Report	10		
		Attendance	10		
	End Evaluation	Performance	25	50	20
		Oral Examination	25		

➤ Criteria for Appearing to End Semester Exam (ESE)

- I. Attendance should be more than 75% in theory and 100% in practical during the semester.
- II. 40% marks in Continuous Comprehensive Assessment (CCA).

*****If student Fail to achieve any one of the above criteria (I & II), they will not be eligible for appearing in the End Semester Exam (ESE)**

➤ Criteria for passing the semester

- I. Student should score minimum 40% in both Continuous Comprehensive Assessment (CCA) & End Semester Exam (ESE) separately.

Course Outcomes

Sr. No.	Course Outcomes
Engineering Physics (SEM-I/SEM-II)	
Group A	
C01	Apply the properties of laser in various applications like material working and holography.
C02	Correlate the principles in quantum mechanics with applications like dynamics of electrons and quantum computing.
C03	Estimate electric load for fixing solar PV systems for the domestic application.
C04	Compare the use of normal conductor and Superconductor for SQUID and MAGLEV Train.
C05	Select optic fibre for intended communication system.
Group B	
C01	Apply the properties of laser in various applications like material working and holography.
C02	Correlate the principles in quantum mechanics with applications like dynamics of electrons and quantum computing.
C03	Estimate electric load for fixing solar PV systems for the domestic application.
C04	Compare the use of normal conductor and Superconductor for SQUID and MAGLEV Train.
C05	Analyse the properties of nanomaterials based on characterization technique.
Group C	
C01	Apply the properties of laser in various applications like material working and holography.
C02	Correlate the principles in quantum mechanics with applications like dynamics of electrons and quantum computing.
C03	Estimate electric load for fixing solar PV systems for the domestic application.
C04	Analyse acoustical aspects of auditorium.
C05	Evaluate disorders in the material by using NDT for testing of various materials.
Engineering Chemistry (SEM-I/SEM-II)	
Group A	
C01	Apply the different methodologies for analysis of water and techniques involved in softening of water as commodity.
C02	Identify the causes of corrosion and methods for minimizing corrosion
C03	Relate fuel and suggest use of alternative fuels for minimizing emission of carbon.
C04	Demonstrate the knowledge of advanced engineering materials for various engineering applications
C05	Implement the green chemistry principles, and properties and application of smart sensors materials to meet the technological challenges.
Group B	
C01	Apply the different methodologies for analysis of water and techniques involved in softening of water as commodity.
C02	Identify the causes of corrosion and methods for minimizing corrosion
C03	Relate fuel and suggest use of alternative fuels for minimizing emission of carbon.
C04	Demonstrate the knowledge of advanced engineering materials for various engineering applications
C05	Select appropriate electro techniques and methods of material analysis.
Group C	
C01	Apply the different methodologies for analysis of water and techniques involved in softening of water as commodity.
C02	Identify the causes of corrosion and methods for minimizing corrosion

C03	Relate fuel and suggest use of alternative fuels for minimizing emission of carbon.
C04	Demonstrate the knowledge of advanced engineering materials for various engineering applications
C05	Appreciate the knowledge of properties of surfactants and lubricants.
<u>Linear Algebra and Differential Calculus (SEM I)</u>	
Group A	
C01	Apply the essential tool of matrices and linear algebra in a comprehensive manner for analysis of systems of linear equations applicable to engineering problems.
C02	Apply the essential tool of matrices and linear algebra in a comprehensive manner for finding linear and orthogonal transformations, Eigenvalues and Eigenvectors applicable to engineering problems.
C03	Implement Mean value theorems, expansions of function using Taylor's and Maclaurin's series useful in the analysis of engineering Problems.
C04	Apply the concept partial derivatives to find Jacobian used for functional dependence & estimating error and approximation
C05	Solve Algebraic and Transcendental equation & System of linear Equations Using numerical techniques.
Group B	
C01	Apply the essential tool of matrices and linear algebra in a comprehensive manner for analysis of systems of linear equations applicable to engineering problems.
C02	Apply the essential tool of matrices and linear algebra in a comprehensive manner for Evaluate linear and orthogonal transformations, Eigenvalues and Eigenvectors
C03	Implement Mean value theorems, expansions of function using Taylor's and Maclaurin's series useful in the analysis of engineering.
C04	Calculate the derivative of functions of several variables that are essential in various branches of Engineering.
C05	Examine the Fourier series representation and harmonic analysis for design and analysis of periodic continuous and discrete systems.
Group C	
C01	Apply the essential tool of matrices and linear algebra in a comprehensive manner for analysis of systems of linear equations applicable to engineering problems.
C02	Apply the essential tool of matrices and linear algebra in a comprehensive manner to evaluate linear and orthogonal transformations, Eigenvalues and Eigenvectors
C03	Implement Mean value theorems, expansions of function using Taylor's and Maclaurin's series useful in the analysis of engineering.
C04	Apply the concept partial derivatives to find Jacobian used for functional dependence & estimating error and approximation
C05	Apply basics of complex numbers to calculate roots and logarithms and its applications
<u>Differential Equation and Integral Calculus (SEM II)</u>	
Group A	
C01	Apply the effective mathematical tools to solve first order differential equations to model physical processes such as Newton's law of cooling, electrical circuit etc
C02	Use advanced integration techniques such as Reduction formulae, Beta functions, Gamma functions, Differentiation under integral sign needed in evaluating multiple integrals and their applications.

C03	Draw the Cartesian, Polar, Parametric & Rose curve for a given equation.
C04	Evaluate multiple integrals and its application to find area bounded by curves, volume bounded by surfaces.
C05	Solve differential equations of first order and Integration using different numerical methods used in modern scientific computing.
Group B	
C01	Apply the effective mathematical tools to solve first order differential equations to model physical processes such as Newton's law of cooling, electrical circuit etc
C02	Use advanced integration techniques such as Reduction formulae, Beta functions, Gamma functions, Differentiation under integral sign needed in evaluating multiple integrals and their applications.
C03	Draw the Cartesian, Polar, Parametric & Rose curve.
C04	Use the concepts of solid geometry using equations of sphere, cone and cylinder in a comprehensive manner
C05	Evaluate multiple integrals and its application to find area bounded by curves, volume bounded by surfaces
Group C	
C01	Apply the effective mathematical tools to solve first order differential equations to model physical processes such as Newton's law of cooling, electrical circuit etc
C02	Use advanced integration techniques such as Reduction formulae, Beta functions, Gamma functions, Differentiation under integral sign needed in evaluating multiple integrals and their applications.
C03	Draw the Cartesian, Polar, Parametric & Rose curve.
C04	Find the Fourier series representation and harmonic analysis for design and analysis of periodic continuous and discrete systems
C05	Evaluate multiple integrals and its application to find area bounded by curves, volume bounded by surfaces
Applied Mechanics (SEM-I/SEM-II)	
Group I & II	
C01	Understand the basic concept of force, moment & couple to determine resultant of various force systems.
C02	Apply conditions of Static equilibrium to free body diagram to solve engineering problem
C03	Analyze and solve engineering problems involving friction, centroids and moments of inertia
C04	Analyze rectilinear and curvilinear motion of particle
C05	Apply Newton's second law, work energy and impulse momentum principles for particles
Electrical and Electronics Engineering (SEM-I/SEM-II)	
C01	Apply KVL, KCL and different network theorems under DC supply for simplification of D.C. networks.
C02	Analyze pure R, L, C Series R-L, R-C, and R-L-C circuit for voltage, current, impedance and power with a.c supply along with phasor diagram.
C03	Analyze Diode circuits for Rectifier and DC Power supply.
C04	Apply the knowledge of Transistors as a amplifier, switch and logic gates for adder circuits
C05	Apply different tariffs to calculate electricity bills for Residential and Commercial Load.

<u>Engineering Graphics and Computer Aided Drafting (SEM-I/SEM)</u>	
C01	Explain the fundamentals of engineering graphics and basic principles of geometric construction
C02	Use the principles of drawing to draw projection of plane
C03	Apply the concept of orthographic projection of an object to draw several 2D views and its sectional views for visualizing the physical state of the object.
C04	Apply the visualization skill to draw a simple isometric projection from given orthographic views
C05	Draw Fully Dimensioned 2D, 3D drawings using computer aided drafting tools.
<u>Programming and Problem Solving (SEM-I/SEM)</u>	
C01	Use the program design tools like Algorithm, Pseudocode and Flowchart and basic concepts of C++ programming to write clean and efficient code for large applications.
C02	Demonstrate the conditional Statements like if statement, if-else statement, if else-if ladder, Nested if statement and switch case statement for decision making.
C03	Apply looping statements and Design C++ programs using arrays to implement the data structures.
C04	Implement C++ programs using string operations and built in string functions for data manipulation.
C05	Develop C++ programs using user defined and built in functions to implement the Abstraction in object oriented programming.
<u>Experiential Learning I (SEM I)</u>	
C01	Handle techniques for various tools and equipment commonly used in workshops are essential to reduce the risk of accidents and injuries during operation
C02	Describe Centre Lathe, Drilling, Grinding, Milling, CNC, Refrigeration and Air Conditioning.
C03	Assembly of Two-Wheeler, Sheet Metal Job, Fitting Job and PC/Laptop for different input values.
C04	Creation of engaging presentations using MS PowerPoint, including slide design, multimedia integration, and delivery techniques.
<u>Experiential Learning II (SEM II)</u>	
C01	Gain hands-on experience in using various engineering tools, equipment, and techniques relevant to their field of study or profession
C02	Analyze plumbing problems, identify potential solutions, and implement effective problem-solving strategies.
C03	Assemble Wood Working Job, Mobile Phone, LCD/LED TV, Domestic Electric Wiring, Soldering, Welding.
C04	Understand report and procedures followed for a given task related To MATLAB Tool.
<u>Liberal Learning I (SEM I) & Liberal Learning II (SEM II)</u>	
C01	Demonstrate linguistic fluency in foreign or native languages through studying the cultural and historical contexts related to their chosen discipline, understanding its evolution, traditions, and the role it plays within various cultural settings and narratives.
C02	Demonstrate enhanced ability to creatively express themselves and effectively communicate ideas, emotions, and, or by creating innovative and artistic art pieces.
C03	Express creativity and individuality through their work, whether through artistic creations, musical performances, or athletic activities, and present and perform their skills confidently in various settings.

<u>Professional and Technical Communication (SEM I)</u>	
C01	Analyze and evaluate spoken information critically for understanding the context and credibility of the source.
C02	Demonstrate effective interpersonal communication skills for harmonious and productive interactions.
C03	Articulate strategies for clear and coherent writing skills for personal & professional communication needs.
C04	Develop skills for effective and authentic non-verbal communication to ace the professional communication needs.
<u>Glory of Ancient India(SEM II)</u>	
C01	Explain Indian Science, Engineering and Technology
C02	Demonstrate Concepts of Vedic Mathematics, Astronomy and Agriculture
C03	Collect Literature of Indian Town Planning, Architecture, Music, Dance
C04	Discover Ayurveda for Health, Wellness, Psychology and Spirituality
<u>Program Specific Core Course(SEM II)</u>	
<u>Python for Data Science</u>	
C01	Demonstrate proficiency in basic Python syntax, data types, and control structures.
C02	Use and manipulate python data structures, functions, packages and modules.
C03	Analyze the structure and components of a Python package and understand the module search path.
C04	Understand the fundamentals of data science and its applications.
C05	Create informative data manipulation for visualization using python libraries.
<u>Basics of Civil Engineering</u>	
C01	Describe the importance of various branches and interdisciplinary approach in Civil Engineering for enormous understanding
C02	Identify and utilize construction materials, concrete types, and sustainable practices for effective building construction.
C03	Identify and describe the various types of foundations and superstructures
C04	Discuss the importance of surveying, leveling to understand topography
C05	Interpret the application of various construction equipment and automation technologies in the building process.
<u>Object Oriented Programming. with C++</u>	
C01	Understand and apply basic object-oriented concepts to provide solution for simple system.
C02	Design and implement program to demonstrate use of Inheritance in real time systems.
C03	Develop an application using polymorphism for solving any complex problem.
C04	Understand and use Pointer concept to implement Run Time Polymorphism
C05	Apply file handling concept for creating software applications.
<u>Semiconductor Devices and Sensors</u>	
C01	Select rectifier diode for design of DC power supply, LED and Photodiode for Opto-coupler circuits in counting applications.
C02	Relate BJT, JFET and MOSFET for amplification and switching action for street light control circuit.

C03	Design combinational circuits like MUX, De-MUX, Encoder, Decoder and sequential logic circuits like mod N counter.
C04	Analyze proximity sensors for touch switches in consumer electronics, RTD for food processing unit and load cell for electronics weighing machine.
<u>Fundamentals of Java Programming</u>	
C01	Apply the fundamental concepts of Java programming language including variables, data types, control structures, and methods.
C02	Use the concepts of classes, objects, members of a class and the relationships among them to write a code for finding the solution to specific problems.
C03	Demonstrate how to extend java classes and achieve reusability using Inheritance and Interfaces.
C04	Apply the concepts of Exception handling to develop efficient and error free codes.
C05	Construct robust and faster programmed solutions to problems using concept of Multithreading.
<u>Measurements in Instrumentation</u>	
C01	Analyze static and dynamic characteristics of measurement instruments like voltmeters and ammeters for analyzing loading effect.
C02	Measure resistance, capacitance, and inductance of electrical circuits for signal analysis.
C03	Analyze measurements like voltage, current, frequency, phase of electrical circuits using cathode ray oscilloscope for signal conditioning requirements.
C04	Use electronic instruments for analog and digital measurements for sensor signal conditioning.
<u>Basic Mechanical Engineering</u>	
C01	Apply basic laws of thermodynamics, heat transfer for day-to-day life applications.
C02	Illustrate various basic parts and transmission system of a road vehicle
C03	Discuss several manufacturing processes and identify the suitable process for various industrial applications
C04	Interpret various types of mechanisms and its applications for household usage.
<u>Elements of Mechanical Engineering</u>	
C01	Analyze and solve problems related to fluid properties, statics, and dynamics in engineering contexts.
C02	Understand the structure, components, and economic aspects of electric vehicles.
C03	Describe various manufacturing processes and identify associated safety measures and defects.
C04	Demonstrate rapid prototype techniques and their applications in modern manufacturing.

Instructions for First Year B. Tech Students

1. Attendance of students in all subjects will be monitored strictly. Absentee will be communicated to the parents on the same day.
2. Student should report to their theory and lab classes on time. Late comers will not be permitted by any faculty or lab assistant.
3. Students should get their Practical journals checked by the respective batch in-charge in time.
4. It is compulsory to submit assignments in time.
5. Students should wear College Uniforms for all days.
6. All the students should wear their ID around their neck as long as they are inside the college campus.
7. **Continuous Comprehensive Assessments** are part of the curriculum. These tests are mandatory for students. Students should not indulge in any kind of malpractice during examinations or tests.
8. Students should switch off lights and fan, when not in use.
9. Students are expected to take care of the college property and help in keeping the premises neat and clean. Disfiguring of walls, doors or breaking the furniture is a breach of discipline and will not be tolerated.
10. Ragging in any form inside or outside the college campus and hostel is banned. Anti – Ragging committee is formed to help FE students.

Academic Results

An Insight to last year SPPU FE (2023-24) Result

LIST OF FE TOPPERS

Rank	Name of Students	CGPA
1	CHAUDHARI RUTUJA PRAMOD	10
	GHODAKE SOURABH SHANKAR	10
	NAPHADE PRANALI PRAVIN	10
	SONAWANE LALIT CHETAN	10
	KIRAN PRAKASH GORE	10
2	ADITYA VITTHAL SHELKE	9.97
	SHRUTI MANE	9.97
	BHANJA SHIPRA PURNACHANDRA	9.97
3	JAIN ADITI MANOJ	9.93
	KALE RUSHIKESH SHIVRAM	9.93
	KAMATHE PRANAV GANGADHAR	9.93
	KHADE RAJ SUNIL	9.93
	KULKARNI AKSHAT AJAY	9.93
	MORE TANUJA PRAMOD	9.93
	PAWAR VEDANT NITIN	9.93

“Hard Work + Dedication + Consistency = Success”

First Year Students Achievements

Academic Year	Achievement	Photo
2023-24	<p>Awards received in Firodia Karandak 2024 inter Collegiate Multi Arts Competition Siddhesh Bhurke, Sharvari Chincholkar, Chandrashekhar Kolhe, Ganesh Wagh, Viranchi Ingale, Anurag Salunkhe got 1st prize in Music Band (Semi Classical)</p> <p>Prathamesh Pawar got 1st prize in Glitter Art</p> <p>Pooja Sabbani, Gaurang Karhale, Shruti Katolkar, Vidhi Jagtap, Manasvi Sangaonkar, Snehal Mohite, Parth Dhore got 1st prize in Shadow Play</p>	
2023-24	<p>Kanika Babar has Won Silver medal at the intercollege championship organized by SPPU and selected for zonal for Lawn Tennis</p>	
2023-24	<p>Prathmesh Pawar Secured 1st Position in Paint-X Competition organized by Army Institute of Technology, Pune</p>	
2022-23	<p>Mr.Aman J. Kathale Qualified for 65th National Shooting Championship Pistol Event Organized By NRAI On 28 Nov, 2022</p>	

Academic Year	Achievement	Photo
2022-23	Mr. Thejas Raja Elandassery, represented his Project Smart Agriculture and Living at 'Indian Institute of Technology Bombay' in the Event IIT Techfest on 16th Dec.2022 and Secured 4th Position in All India Level.	
2021-22	Ms. Anchal Khadse, Mr. Tejas Jadhav, Mr. Jayesh Sandane, Mr. Girish Valvi, Mr. Vinay Bidwe and Mr. Rudra Phadtare, won second prize in SPPU's intercollegiate Roll Ball Competition on 5th March 2022.	
2021-22	Mr. Tilak Jayant Jadhav is representing Maharashtra Cricket Team under BCCI since 2017	
2020-21	Ms. Vaishnavi Kulkarni was the Runner up of Maharashtra team in 4th National Roll Ball competition held in 2021 which was conducted by National Games Authority, Pune	

Deans & Heads of the Departments

Sr. No	Department	Name of Dean/H.O.D. / Section In Charge
1	Dean Administration	Dr. Sandeep S. Sarnobat
2	Dean Academics and Autonomy	Dr. Preeti Patil
3	Dean Quality Assurance	Dr. Vinay Kulkarni
4	Dean Research, Development and Grants	Dr. Sandeep M. Shiyekar
5	Dean Admissions and Extensions	Dr. Sanjay Babar
6	Dean Collaborations (National & International)	Dr. Dilip G. Khairnar
7	Dean Academic Monitoring	Dr. Kiran Shiralkar
8	Dean - Campus Placement	Mrs. Jasmita Kaur
9	Dean Student Affairs	Dr. Smita V. Pataskar
10	Artificial Intelligent and Data Science	Dr. Vinayak Kottawar
11	Computer Engineering	Dr. Madhuri Potey
12	Civil Engineering	Dr. Ashok B. More
13	Electronics and Telecomm. Engg.	Dr. Rutuja Deshmukh
14	First Year B.Tech	Dr. Manisha Tanwer
15	Humanities, Social Sciences & Management	Dr. Sandeep Shiyekar
16	Information Technology	Dr. Preeti Patil
17	Instrumentation and Control Engg.	Dr. Bhausahab B. Musmade
18	Mechanical Engineering	Dr. Pravin T. Nitnaware
19	Robotics and Automation	Dr. Nitin K. Kamble
20	Workshop	Dr. Kiran Shiralkar
21	Librarian	Mr. Avinash Lande

Course Chairmen of First Year Subjects

Sr. No.	Course	Course Chairmen
1	Linear Algebra and Differential Calculus	Dr. Vrushali Patil
	Differential Equation & Integral Calculus	
2	Engineering Chemistry	Dr. Pranjali Shinde
3	Engineering Physics	Dr. Mohan A Sutar
4	Electrical and Electronics Engineering	Mrs. Komal A. Desai
5	Applied Mechanics	Mrs. Savita V. Jatti
6	Engineering Graphics and Computer Aided Drafting	Mrs. Utkarsha Kharade
7	Programming and Problem Solving	Mrs. Swati Suryawanshi
8	Experiential Learning	Dr. Kiran Shiralkar
9	Liberal Learning	Mrs. Hnnie Williams
10	Indian Knowledge System	Mrs. M.M. Karad
11	Professional and Technical Communication	Mrs. Swati Jadhav

Administrative Staff

Sr. No.	Designation	Name of the office staff
1	Registrar	Mr. Prashant N. Bhalerao
2	Student Section	Mr. Sandip Salunkhe (Student related matter) Mr. Prakash Wadkar (Scholarship Section)
3	Establishment Section	Mr. Avinash Thorat Ms. Surekha Khandale
4	Account Section	Mrs. Pallavi Malpathak, Mr. Santosh Thorat Mr. Raju Shikalgar, Mrs. Sonali Thorat
5	Store	Mr. S.C. Sharma, Mr. Mahesh More
6	Girls Hostel Incharges	Dr. Manisha Tanwar (DYPCOE)
7	Rectors (DYP Girls hostel)	Mrs. Sheetal Sakate

Sr. No.	Designation	Name of the office staff
1	Behavioral Counselor and Soft Skill Trainer	Ms. Shruti Seth 9309516779
2	Physical Director	Mr. Abaji Mane 9767063728

List of Class Teachers for First Year

Academic Coordinators

Cycle I – Mr. Sunil Payghan

Cycle II – Mrs. Hnnie Williams

Cycle	Division	Name of Class Teacher	Contact Number
I	A	Mrs. Pramila Karale	7875834677
	B	Mrs. Madhuri Gurale	9423720497
	C	Mr. Hardik Mandwe	9028392860
	D	Mrs. Subhashini Ramteke	9970158268
	E	Mr. Amit Uphad	7798902221
	F	Ms. Jaya Nalawade	8087809287
	G	Mrs. Sabrina Kazi	7385336896
	H	Mr. Somnath Nayakwadi	9096493744
	I	Dr. Ganesh Gosavi	9096708768
II	J	Mr. Rameshwar Dhoke	9834773160
	K	Ms. Priyanka Dushing	8007780628
	L	Ms. Neeta Katariya	7057838833
	M	Mrs. Harshada Dadhade	7447442031
	N	Mr. Ganesh Nimgare	8308192628
	O	Mrs. Shruti Madane	8600074219
	P	Mr. Ramesh Sul	8378915464
	Q	Mr. Santosh Damkondwar	9552747167
	R	Mrs. Minal Rade	9403847438

*“A Teacher is a compass that activates
the magnets of curiosity, knowledge and wisdom in the pupils.”
-Ever Garrison*

Teacher Guardian Scheme

In DYPCOE, Akurdi Students from various states of our country has taken admission for UG Engineering course. For taking care of newly admitted students, Institute has a *Teacher Guardian (TG) scheme* under which a group of 20-23 students have a particular teacher who monitors the academic performance as well as well-being of the students. TG keeps the track of every student's day-to-day activities, record their attendance, internal examination results and other related information in the specially designed Teacher Guardian Booklet. TG encourages the students to participate in co-curricular & extracurricular activities. TG gives academic feedback of the student to their parents/guardians regularly. TG also counsels the students to solve difficulties encountered not only in college campus but in their personal lives too. Teacher guardian acts as a mentor to students and offers them emotional and academic support along with motivation.

Highlights of the Scheme:

- One teacher is nominated as 'Teacher Guardian' for a group of 20-23 students.
- Teacher Guardian maintains all records of students in T.G. booklet.
- Teacher guardian closely monitors attendance and academic performance of students.
- Teacher guardian sends letters regarding performance and attendance to parents whenever required.
- Teacher guardian does counseling about studies and help students to solve their personal problems.
- Helping students to overcome home sickness.
- Teacher guardian acts as mediator between college and parents.
- TG counsel students in regular interval for improving his/her academic performance. Also TG encourages and guide students for taking part in various co-curricular and extracurricular activities, which helps them in personality development.
- If required, mentees will be taken to counselor for the special counseling.

A Teacher is like a Candle – it Consumes itself to Light the way for Others

Academic Calendar (AY 2024-2025 Semester I)

Sr. No.	Event	Date
1	Load Distribution approval from Principal	04.09.2024
2	Faculty Training	05.09.2024
3	IQAC Meeting - 1	06.09.2024
4	Time Table Display	11.09.2024
5	First Year Commencement (Welcome and Induction Program)	12.09.2024
6	Research Plan (Publication, Grants, Consultancy) Submission to R & D Coordinator	14.09.2024
7	Commencement of F.Y. Academics	18.09.2024
8	JUNO ERP Review and Report to Principal	23.09.2024
9	Session on Stress Management	28.09.2024
10	1st CRs Meeting	30.09.2024
11	Display of Slow and Advanced Learners - 1	14.10.2024
12	Students First Feedback on T/L Process	17.10.2024
13	Progress Review of ERP Implementation	17.10.2024
14	Display of Defaulters List-I	18.10.2024
15	Unit Tests 1	21.10.2024
16	Monthly progress review and Report Submission by Deans and HODs to Principal	21.10.2024
17	Dispatch of Letters to Defaulters Students Parents	22.10.2024
18	Action Taken Report on Students Feedback	23.10.2024

Sr. No.	Event	Date
19	CO-PO attainment submission	06.11.2024
20	Display of Slow and Advanced Learners - 2	14.11.2024
21	Display of Defaulters List -II	18.11.2024
22	Dispatch of Letters to Defaulters Students Parents	20.11.2024
23	Monthly progress review and Report Submission by Deans and HODs to Principal	22.11.2024
24	Parents Teacher Meeting	23.11.2024
25	Display of Provisional Detention List	06.12.2024
26	Dispatch of Letters to Defaulters Students Parents	09.12.2024
27	Guest lecture on Human Values	14.12.2024
28	Unit Tests -2	16.12.2024
29	Final Display of Detention List	20.12.2024
30	Practical Exams/ Oral	23.12.2024
31	Term work Submission	28.12.2024
32	End of Semester-I	28.12.2024
33	Academic Audit (External Stakeholders)	30.12.2024
34	Commencement of end Semester Examinations	06.01.2025

List of books for First Year B. Tech

Semester I and II

Sr. No.	Name of Subject	Title of Book	Author	Publication
1	Engineering Physics	Non-destructive tests and evaluation of Materials	J. Prasad, C.G. Krishnadas Nair,	2 nd Edition, Mc Graw Hill (2017)
		Fundamentals of Optics	Jenkin and White	4 th Edition, Tata McGraw Hill (2017)
2	Engineering Chemistry	Textbook of Engineering Chemistry	Dr. S. S. Dara, Dr. S. S. Umare,	S. Chand & Company Ltd.
		Engineering Chemistry,	O .G. Palanna,	Tata Magraw Hill Education Pvt. Ltd.
3	Linear Algebra and Differential Calculus	Engineering Mathematics by	Erwin Kreyszig	10 th Edition ,Wiley Eastern Ltd
		Advanced Engineering Mathematics	M. D. Greenberg	2 nd Edition, Pearson Education
4	Differential Equation & Integral Calculus	Engineering Mathematics by	Erwin Kreyszig	10 th Edition ,Wiley Eastern Ltd
		Advanced Engineering Mathematics	M. D. Greenberg	2 nd Edition, Pearson Education
5	Applied Mechanics	Engineering Mechanics (Statics and Dynamics)	Hibbeler R. C.,	Pearson Education
		Engineering Mechanics	Ferdinand Singer	3rd edition, Harper and Row
6	Electrical and Electronics Engineering	Electrical Technology Vol-I	B.L. Theraja,	1 st edition,S Chand & Company Ltd
7	Engineering Graphics and Computer Aided Drafting	Engineering drawing	Bhatt N. D..	Charotar publishing house
		Engineering Graphics	Shah P. J.	S. Chand and Company
8	Programming and Problem Solving	Object-Oriented Programming with C++	E Balagurusamy	7th edition, McGraw-Hill Publication,
		Object-Oriented Programming in C++	Robert Lafore	4 th edition, Sams Publishing
9	Professional and Technical Communication	Communication Skills for Engineers	S. Mishra & C. Muralikrishna	Pearson
		Communication Skills for Technical Students	T.M. Farhathullah	Orient Longman

Sr. No.	Name of Subject	Title of Book	Author	Publication
10	Glory of Ancient India	Introduction to Indian Knowledge System: Concepts and Applications	Mahadevan, B., Bhat, Vinayak Rajat, Nagendra Pavana R.N.,	PHI Learning Pvt.
11	Python for Data Science	Python Programming Using Problem Solving Approach	Reema Thareja	Oxford University Press
		Core Python Programming	R. Nageswara Rao	Dreamtech Press
12	Basics of Civil Engineering	Building Construction and Drawing	Bindra and Arora	Dhanapat Rai Publications.
		Surveying	N.N. Basak	Edition 2014 Tata Mc-Graw Hill
13	Object Oriented Programming, with C++	Object-Oriented Programming in C++”	Robert Lafore	Sams Publishing
		Object-Oriented Programming with C++	E. Balagurusamy	MC Graw- Hill
14	Semiconductor Devices and Sensors	Electronics Devices	Thomas Floyd	Prentice hall
		Modern Digital Electronics	R.P. Jain	Tata McGraw Hill
15	Fundamentals of Java Programming	Java-The Complete Reference	Herbert Schildt	Oracle Press, Tata McGraw Hill Education.
		Java One Step Ahead	Anita Seth, B.L.Juneja	oxford university press
16	Measurements in Instrumentation	A course in Electrical and Electronic Measurements and Instrumentation	A. K. Shawney	Dhanpat Rai and Sons
		Electronic Instrumentation	H. S. Kalsi	McGraw Hill Education
17	Elements of Mechanical Engineering	Fluid Mechanics and Hydraulic Machines	Bansal R.K.	Laxmi Publication
		Textbook of Refrigeration and Air Conditioning	Khurmi R. S.	S. Chand
18	Basic Mechanical Engineering	Basics of Mechanical Engineering	Agrawal, Basant and Agrawal, C. M	JohnWiley and Sons, USA
		Basic Mechanical Engineering	Rajput, R.K	Laxmi Publications Pvt. Ltd

Do 's And Don'ts To Be Maintained By Students In College

- As per Supreme Court orders, students involved in **Ragging activities** shall be **liable for punishment** such as lodging FIR with Police, expulsion from the institute.
- Students should maintain **complete silence and decorum** in the college premises, campus, classroom, library, corridors etc. They should help in maintaining the campus spic and span.
- **100 % attendance in Theory & Practical** classes are necessary for effective learning and to excel in examination. Absence due to unavoidable reasons must be notified to the Head of the department in writing, after getting it countersigned by the class teacher.
- They should cultivate reading habits and look for important information & instructions daily, on the notice board.
- Students, during **free time should not loiter** here and there, but should usefully engage themselves by **utilizing library reading- room facility**. Students should not visit the hostel during college hours.
- Representation, regarding complaints and grievances, should be made to the Principal, through the respective Class teacher of the student, nominated by the college authorities.
- **All examinations / tests conducted by the college are compulsory.**
- **Participation in college activities and functions organized by the college is compulsory.** Under unavoidable circumstances, prior permission of the Head of Department should be taken.
- **Use and possession of mobile phones during any examination is prohibited.**
- Don't get in the habit of skipping classes. **Attending class is a critical component of learning the material and class notes are often a key part of studying for exams.**



“Discipline is the bridge between goals and accomplishment”

Local Area Information

Pimpri Chinchwad is the extended city limits of Pune, Maharashtra. It is cluster of Automotive, Mechanical, Information Technology & Pharmaceuticals Industry. It is situated at an altitude of 530 m above sea level, about 15 km northwest of the historic center of Pune. Pimpri Chinchwad as well as the cantonment areas of Pune Central, Khadki and Dehu Road together form the urban core of the Pune Metropolitan Region. Pimpri Chinchwad has a population of more than 1.72 million residing in an area of 181 km². Pimpri Chinchwad is home to a vast variety of industrial establishments and is well known for its automotive and manufacturing industry.

The city experiences three seasons: summer, monsoon and winter. Typical summer months are February to May with maximum temperatures above 35 °C and reaching up to 42 °C on hotter days. The city receives most of its 722 mm of rainfall in the monsoon months of June to September. The temperature in the winter months of October to January ranges from 12 °C (min) to 30 °C (max), with night temperatures often falling below 10 °C.

➤ **Transport**

Pimpri Chinchwad is well connected by Road, Rail and Air. Public transport modes in Pimpri Chinchwad include Suburban Railway, bus and Rainbow BRTS services operated by PMPML and auto rickshaws. Pune Metro, an urban mass rapid transit system is under construction in the twin cities Online transport network companies like Uber and Ola cabs also provide rideshare and taxi services in the city.

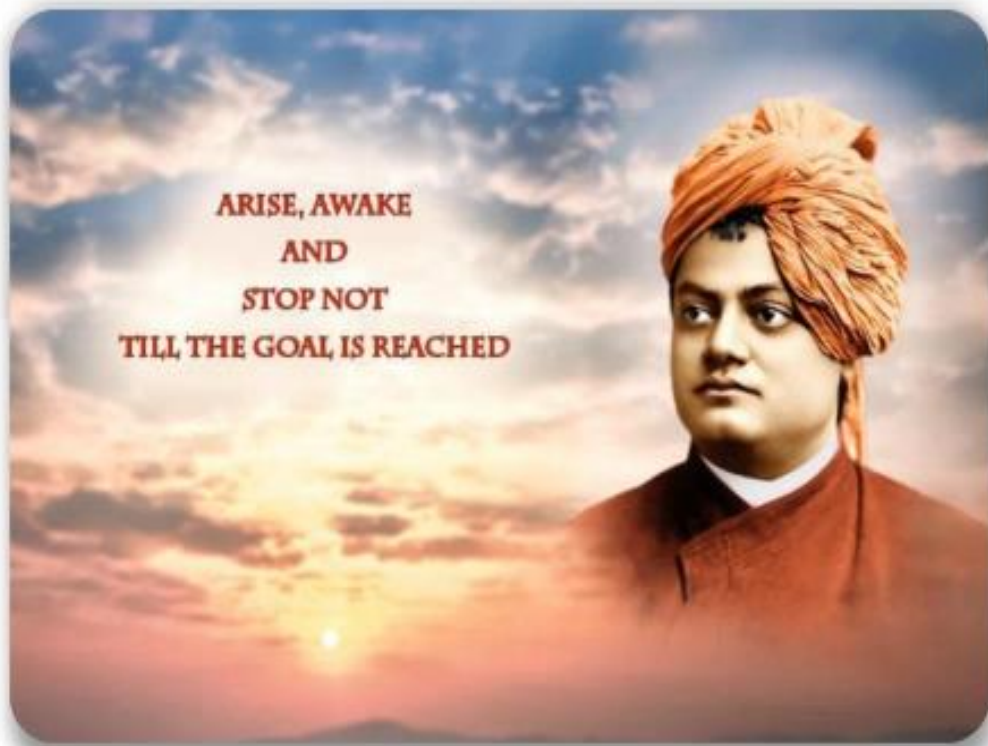
➤ **Parks, recreation and tourism**

1. Pimpri Chinchwad has public parks such as the park on Durga Tekdi and Bhakti-Shakti park in Nigdi, the Pimpri-Chinchwad Science Park in Chinchwad, and the Boat Club in Thergaon.
2. The city also has a zoo named after Nisargakavi Bahinabai Chaudhari in Chinchwad East Close to the zoo is a lake garden called the Bird Valley because of the water birds like cranes which come migrating here.
3. Appu Ghar is an amusement park located in the Pradhikaran area. There are ten public swimming pools run by PCMC.
4. The Auto Cluster Development and Research Institute located in Chinchwad-Talegaon-Chakan is a facility for providing support to small & medium Enterprises.
5. Pimpri Chinchwad Science Park is a place for science nerds. It is a perfect place to learn, experiment.



CONTACTS IN CASE OF MEDICAL EMERGENCY

- 1) Lokmanya Hospital (Nigdi) : +91-9881142101, +91-2030612009, +91-9595844844
- 2) Dhanvantari Hospital (Nigdi) : (020) 27656950 / 27659527/ 27659506 / 27659710
- 3) Ambulance on call: Jeevan Rekha : (020) 27659000 / 105
- 4) Ojas Hospital (Ravet) : (020)27405500, 7385159540, 8888588880
- 5) Flora Multi Specialty Hospital : 07276219050, 7947304272



लहरों से डरकर नौका पार नहीं होती...
कोशिश करने वालों की हार नहीं होती...

नन्ही चींटिं जब दाना लेकर चढ़ती है...
चढ़ती दीवारों पर सौ बार फिसलती है...
मन का विश्वास रगों में साहस भरता है...
चढ़कर गिरना, गिरकर चढ़ना, ना अखरता है...
मेहनत उसकी बेकार हर बार नहीं होती...
कोशिश करने वालों की हार नहीं होती...

असफलता एक चुनौती है... स्वीकार करो...
क्या कमी रह गयी, देखो और सुधार करो...
जब तक ना सफल हो नींद-चैन को त्यागो तुम...
संघर्षों का मैदान छोड़ मत भागो तुम...
कुछ किये बिना ही जयजयकार नहीं होती...
कोशिश करने वालों की हार नहीं होती...



DYP

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