M.I.E.T. ENGINEERING COLLEGE
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UG - CSE, EEE & MECH Programs Accredited by NBA, New Delhi.
(An ISO 9001:2015 Certified Institution)
TRICHY – PUDUKKOTTAI ROAD, TIRUCHIRAPPALLI – 620 007.
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# SCIENCE AND HUMANITIES

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# Regulation – 2017

## SEMESTER - I

| S.No | Course Outcome |
|---|---|
| **C101/ HS8151/ COMMUNICATIVE ENGLISH** | |
| **C101.1** | Speak clearly, confidently, comprehensibly, and communicate with one or many listeners using communicative strategies. |
| **C101.2** | Write coherently and flawlessly using a wide diction. |
| **C101.3** | Read different genres of texts adopting various reading strategies. |
| **C101.4** | Comprehend different spoken discourses in different accents. |
| **C101.5** | Communicate in group and to larger audience appropriately. |
| **C101.6** | Enable to understand process descriptions and present it in the relevant field. |
| **C102/ MA8151/ENGINEERING MATHEMATICS I** | |
| **C102.1** | Find the eigen values and eigen vectors to diagonalise and reduce a matrix to quadratic form. |
| **C102.2** | Check the converges, diverges of infinite series |
| **C102.3** | Find the solutions of algebraic equations solved by iterative methods gets close to the required solution. |
| **C102.4** | Obtain the evaluate and envelopes of a given curves by means of radius and centre of curvature |
| **C102.5** | Calculate the maxima and minima value functions of two variables |
| **C102.6** | Find the area of plain curves and volume of solid using double and triple integrals |
| **C103/ PH8151/ENGINEERING PHYSICS** | |
| **C103.1** | Discuss various crystal structures and different crystal growth techniques |
| **C103.2** | Demonstrate the properties of elasticity and heat transfer through objects |
| **C103.3** | Explain black body radiation, properties of matter waves and Schrodinger wave equations |
| **C103.4** | Illustrate the acoustic requirements, production and application of ultrasonics. |
| **C103.5** | Examine the characteristics of laser and optical fiber |

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| **C103.6** | Improve the property of the materials for the application of commercial devices |
| **C104/ CY8151/ENGINEERING CHEMISTRY** | |
| **C104.1** | Classify polymers and their utility in the industries and describe the techniques of polymerization and properties of polymers |
| **C104.2** | Relate various thermodynamic functions such as enthalpy, entropy, free energy and their importance and equilibrium constant and its significance |
| **C104.3** | Explain the photophysical processes such as fluorescence and phosphorescence and various components of UV and IR spectrophotometer |
| **C104.4** | Illustrate the phase transitions of one component and two component systems and the types of alloys and their applications in industries |
| **C104.5** | Outline the synthesis, characteristics and the applications of nano materials |
| **C104.6** | Knowing the various applications related to photophysical laws |
| **C105 / GE8151/ PROBLEM SOLVING AND PYTHON PROGRAMMING** | |
| **C105.1** | Demonstrate algorithm, flowchart for various programs |
| **C105.2** | Do simple programs using python programming basics |
| **C105.3** | Illustrate programs by using arrays and string functions |
| **C105.4** | Develop simple programs using functions and pointers |
| **C105.5** | Design mini projects with structures. |
| **C105.6** | Develop applications using python Programming Language |
| **C106 / GE8152/ ENGINEERING GRAPHICS** | |
| **C106.1** | Construct engineering curves |
| **C106.2** | Sketch all the views of engineering objects in free hand. |
| **C106.3** | Draw the projection of points, lines and planes. |
| **C106.4** | Draw the projection of solids in any orientation. |
| **C106.5** | Develop the section and lateral surfaces of sectioned solids |
| **C106.6** | Sketch the solids in perspective and isometric approaches |

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| **C107 / GE8161/ PROBLEM SOLVING AND PYTHON PROGRAMMINGLABORATORY** | |
| **C107.1** | Demonstrate algorithm, flowchart for various programs |
| **C107.2** | Do simple programs using python programming basics |
| **C107.3** | Illustrate programs by using arrays and string functions |
| **C107.4** | Develop simple programs using functions and pointers |
| **C107.5** | Design mini projects with structures. |
| **C107.6** | Develop applications using python Programming Language |
| **C108 / BS8161/ PHYSICS AND CHEMISTRY LABORATORY** | |
| **C108.1** | The student will be able to analyze the physical principle involved in the various instruments, also relate the principle to new application. |
| **C108.2** | The various experiments in the areas of elasticity, optics, mechanics and thermal physics will nurture the students in all branches of Engineering. |
| **C108.3** | The students will be able to think innovatively and also improve the creative skills that are essential for engineering. |
| **SEMESTER – II** | |
| **C109 / HS8251/ TECHNICAL ENGLISH** | |
| **C109.1** | Speak clearly, confidently, comprehensibly, and communicate with one or many listeners using communicative strategies. |
| **C109.2** | Write coherently and flawlessly using a wide diction. |
| **C109.3** | Read different genres of texts adopting various reading strategies. |
| **C109.4** | Comprehend different spoken discourses in different accents. |
| **C109.5** | Communicate in group and to larger audience appropriately. |
| **C109.6** | Enable to understand process descriptions and present it in the relevant field. |
| **C110 / MA8251/ ENGINEERING MATHEMATICS II** | |
| **C110.1** | Apply the vector concepts of vector calculus in engineering disciplines |
| **C110.2** | Apply the knowledge of mathematics in solving higher order differential equations with constant coefficients. |

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| **C110.3** | To have the basic knowledge of differential equation in typical mechanical fields. |
| **C110.4** | Understand and apply the knowledge of Laplace transform in solving ordinary differential equation. |
| **C110.5** | Understand the standard techniques of complex variable theory and use them to solve core engineering problems. |
| **C110.6** | Evaluate real integrals by applying concept of complex integration. |
| **C111 / PH8253/PHYSICS FOR ELECTRONICS ENGINEERING** | |
| **C111.1** | Gain knowledge on classical and quantum electron theories, and energy band structures, |
| **C111.2** | Acquire knowledge on basics of semiconductor physics and its applications in various devices, |
| **C111.3** | Get knowledge on magnetic and dielectric properties of materials, |
| **C111.4** | Have the necessary understanding on the functioning of optical materials for optoelectronics, |
| **C111.5** | Understand the basics of quantum structures and their applications in spintronics and carbon electronics. |
| **C112/ BE8254/BASIC ELECTRICAL AND INSTRUMENTATION ENGINEERING** | |
| **C112.1** | Fundamentals of semiconductor and basic theorems used in Electrical circuits |
| **C112.2** | Design amplifier circuits under CB, CE, CC Configurations. |
| **C112.3** | Design the Adders – Flip-Flops – Registers and Counters with logic gates. |
| **C112.4** | Discuss the Principles of Amplitude and Frequency Modulations and various blocks Communication Systems |
| **C112.5** | Demonstrate the working of Television systems, FAX machines and micro wave systems. |
| **C113 /EC8251/CIRCUIT ANALYSIS** | |
| **C113.1** | Develop the capacity to analyze electrical circuits, apply the circuit theorems in real time |
| **C113.2** | Design and understand and evaluate the AC and DC circuits. |
| **C113.3** | Practical implications of the fundamentals of Ohm's law, Kirchhoff's current and voltage laws |
| **C113.4** | Accurate measurement of voltage, current, power and impedance of any circuit |
| **C113.5** | DC analysis, Transient analysis and Frequency analysis of a given circuit depending on types of elements |

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| **C113.6** | Practical implementation of the fundamental electrical theorems and modeling of simple electrical systems |
| **C114/ EC8252/ELECTRONIC DEVICES** | |
| **C114.1** | Describe the principle and characteristics of semiconductor diode |
| **C114.2** | Analyze various transistor configurations |
| **C114.3** | Construct large signal modeling and small signal modeling of a transistor |
| **C114.4** | Describe the principle of operation and characteristics of special Semiconductor diodes |
| **C114.5** | Discuss the operation of various semiconductor photo devices and power electronic devices |
| **C114.6** | Implement real time applications using electronic devices |
| **C115/ EC8261/CIRCUITS AND DEVICES LABORATORY** | |
| **C115.1** | Identify the basic devices and its configurations |
| **C115.2** | Analyze the resistive circuits with different sources |
| **C115.3** | Obtain the resonance for different configurations of RLC |
| **C115.4** | Explain the response of RLC circuit with different inputs |
| **C115.5** | Understand the operation of basic solid state devices |
| **C115.6** | Plot the response of wave shaping circuits |
| **C116 / GE8261/ ENGINEERING PRACTICES LABORATORY** | |
| **C116.1** | Gets exposure regarding Joining operations in engineering materials. |
| **C116.2** | Carry out the basic machining operations in engineering materials. |
| **C116.3** | Carry out basic home electrical works and appliances |
| **C116.4** | Measure the electrical quantities |
| **C116.5** | Understand basic electronic components. |
| **C116.6** | Integrate the components and gates using soldering practices. |

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| S.No | Course Outcome | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HS8151- Communicative English | | | | | | | | | | | |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
| C101.1 | 2 | - | - | - | - | 2 | 2 | - | 2 | 3 | - | 2 |
| C101.2 | - | - | - | - | - | 2 | 2 | - | 2 | 3 | - | 2 |
| C101.3 | - | 2 | - | 2 | 2 | 2 | 2 | - | 2 | 3 | - | 2 |
| C101.4 | 2 | - | - | - | - | 2 | 2 | - | 2 | 3 | - | 2 |
| C101.5 | 2 | - | - | - | - | 2 | 2 | - | 2 | 3 | - | 2 |
| C101.6 | 2 | - | - | - | 3 | 2 | 2 | - | 2 | 3 | - | 2 |
| MA8151- Engineering Mathematics - I | | | | | | | | | | | | |
| C102.1 | 3 | 2 | 2 | - | - | 2 | - | - | - | 3 | - | 2 |
| C102.2 | 2 | 3 | 2 | - | - | - | - | - | - | - | - | - |
| C102.3 | 3 | 2 | 2 | - | - | - | - | - | - | 2 | - | - |
| C102.4 | 3 | 2 | 3 | 2 | 2 | - | - | 2 | - | 2 | - | - |
| C102.5 | 3 | 3 | 2 | 2 | - | 2 | - | - | - | - | - | 2 |
| C102.6 | 3 | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | 2 | 2 |
| PH8151- Engineering Physics | | | | | | | | | | | | |
| C103.1 | 3 | 2 | 2 | 3 | 2 | 2 | - | - | - | - | - | 3 |
| C103.2 | 3 | 3 | 3 | 2 | - | 2 | - | - | - | - | - | 3 |
| C103.3 | 3 | 2 | - | - | - | - | - | - | - | - | - | 3 |
| C103.4 | 3 | 3 | 3 | 3 | 2 | 2 | - | - | - | - | - | 2 |
| C103.5 | 3 | 2 | 3 | 3 | 2 | 3 | 2 | - | - | - | - | 2 |
| C103.6 | 3 | 2 | 3 | 3 | 2 | 3 | 2 | - | - | - | - | 2 |
| CY8151- Engineering Chemistry | | | | | | | | | | | | |
| C104.1 | 2 | 2 | 2 | 2 | 2 | - | 3 | - | 2 | - | 2 | 3 |
| C104.2 | 2 | 2 | 2 | 2 | 2 | - | - | - | 2 | - | 2 | 2 |

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| **C104.3** | 2 | 2 | 2 | 2 | 2 | - | 2 | - | 2 | - | 2 | 2 |
| **C104.4** | 2 | 2 | 2 | 2 | 2 | - | 2 | - | 2 | - | 2 | 2 |
| **C104.5** | 2 | 2 | 2 | 2 | 2 | - | 2 | 2 | 2 | - | 2 | 2 |
| **C104.6** | 2 | 2 | 2 | 2 | 2 | - | 2 | 2 | 2 | - | 2 | 2 |
| **GE8151- Problem Solving and Python Programming** | | | | | | | | | | | | |
| **C105.1** | 3 | 2 | - | - | - | - | - | - | - | - | - | - |
| **C105.2** | 3 | 2 | 2 | - | - | - | - | - | - | - | - | - |
| **C105.3** | 3 | 2 | 2 | - | - | - | - | - | - | - | - | - |
| **C105.4** | 3 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - |
| **C105.5** | 3 | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - | - |
| **C105.6** | 3 | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - | - |
| **GE8152- Engineering Graphics** | | | | | | | | | | | | |
| **C106.1** | 3 | 3 | 3 | 2 | 2 | - | - | - | - | 2 | 3 | 2 |
| **C106.2** | 3 | 3 | 3 | 2 | 2 | - | - | - | - | 3 | 2 | 2 |
| **C106.3** | 3 | 3 | 3 | 2 | 2 | - | - | - | - | 2 | 2 | 2 |
| **C106.4** | 3 | 3 | 3 | 2 | 3 | - | - | - | - | 2 | 2 | 2 |
| **C106.5** | 3 | 3 | 3 | 2 | 2 | - | - | - | - | 3 | 2 | 2 |
| **C106.6** | 3 | 3 | 3 | 2 | 3 | - | - | - | - | 2 | 2 | 2 |
| **GE8161- Problem Solving and Python Programming Laboratory** | | | | | | | | | | | | |
| **C107.1** | 3 | - | - | - | - | - | - | - | - | - | - | - |
| **C107.2** | 3 | 3 | 3 | 2 | - | - | - | - | - | - | - | - |
| **C107.3** | 3 | 3 | 3 | 2 | - | - | - | - | - | - | - | - |
| **C107.4** | 3 | 2 | 3 | 2 | - | - | - | - | - | - | - | - |
| **C107.5** | 3 | 2 | 3 | 2 | - | - | - | - | - | - | - | - |
| **C107.6** | 3 | 2 | 3 | 2 | - | - | - | - | - | - | - | - |

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| **BS8161- Physics and Chemistry Laboratory** | | | | | | | | | | | | |
| **C108.1** | 3 | 2 | 3 | - | - | - | - | - | 3 | 2 | 2 | 2 |
| **C108.2** | 3 | 2 | 2 | - | - | - | - | - | 3 | 2 | 2 | 3 |
| **C108.3** | 3 | 3 | 2 | - | - | - | - | - | 3 | 2 | 2 | 3 |
| **C108.4** | 3 | 2 | 2 | - | - | - | - | - | 3 | 2 | 2 | 2 |
| **C108.5** | 3 | 3 | 2 | - | - | - | - | - | 3 | 2 | 2 | 3 |
| **C108.6** | 3 | 2 | 2 | - | - | - | - | - | 3 | 2 | 2 | 2 |
| **HS8251- Technical English** | | | | | | | | | | | | |
| **C109.1** | 2 | 2 | - | - | - | 2 | 2 | - | 2 | 3 | - | 2 |
| **C109.2** | 2 | 3 | - | - | - | 2 | 2 | - | 2 | 3 | - | 2 |
| **C109.3** | 2 | 2 | - | - | - | 2 | 2 | - | 2 | 3 | - | 2 |
| **C109.4** | 2 | 2 | - | - | - | 2 | 2 | - | 2 | 3 | - | 2 |
| **C109.5** | 2 | 3 | - | - | - | 2 | 2 | - | 2 | 3 | - | 2 |
| **C109.6** | 2 | 3 | - | - | - | 2 | 2 | - | 2 | 3 | - | 2 |
| **MA8251- Engineering Mathematics – II** | | | | | | | | | | | | |
| **C110.1** | 3 | 3 | 3 | 3 | 2 | 2 | - | - | - | 2 | - | - |
| **C110.2** | 3 | 2 | 2 | - | - | 2 | - | - | - | - | - | - |
| **C110.3** | 3 | 3 | 3 | - | - | 2 | - | 2 | - | 2 | - | 2 |
| **C110.4** | 3 | 2 | 2 | - | 2 | - | - | - | - | - | - | - |
| **C110.5** | 3 | 3 | 3 | 2 | 2 | - | - | - | - | 2 | 2 | - |
| **C110.6** | 2 | 2 | 3 | 2 | 2 | 2 | - | - | - | 2 | - | 2 |
| **PH8253- Physics for Electronics Engineering** | | | | | | | | | | | | |
| **C111.1** | 2 | 2 | - | - | - | - | - | - | - | - | - | - |
| **C111.2** | 3 | 2 | 3 | - | - | 2 | 2 | - | - | 3 | - | 2 |
| **C111.3** | 3 | 3 | 3 | 3 | - | 2 | 2 | - | - | 3 | - | 2 |
| **C111.4** | 3 | 3 | 3 | 3 | - | 2 | 2 | - | - | 3 | - | 2 |

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| **C111.5** | 3 | 2 | 2 | - | 2 | 2 | 2 | - | 2 | 3 | - | 3 |
| **C111.6** | 3 | 2 | 2 | - | 2 | 3 | 2 | - | 2 | 3 | - | 3 |
| **BE8254- Basic Electrical and Instrumentation Engineering** | | | | | | | | | | | | |
| **C112.1** | 2 | 2 | 2 | - | 2 | - | - | - | - | - | 2 | 2 |
| **C112.2** | 2 | 2 | 2 | - | 2 | - | - | - | - | - | 2 | 2 |
| **C112.3** | 2 | 2 | 2 | 2 | 2 | 2 | - | - | - | - | 2 | 2 |
| **C112.4** | 2 | 2 | 2 | - | 2 | 2 | - | - | - | - | 2 | 2 |
| **C112.5** | 2 | 2 | 2 | - | 2 | 2 | 2 | - | 2 | - | 2 | 2 |
| **C112.6** | 2 | 2 | 2 | 2 | 2 | 2 | 2 | - | 2 | - | 2 | 2 |
| **EC8251- Circuit Analysis** | | | | | | | | | | | | |
| **C113.1** | 3 | 2 | 2 | - | 2 | - | - | - | - | - | - | 2 |
| **C113.2** | 3 | 2 | 2 | - | 2 | - | - | - | - | - | - | 2 |
| **C113.3** | 3 | 2 | 2 | - | 2 | - | - | - | - | - | - | 2 |
| **C113.4** | 3 | 2 | 2 | - | 2 | - | - | - | - | - | - | 2 |
| **C113.5** | 3 | 2 | 2 | - | 2 | - | - | - | - | - | - | 2 |
| **C113.6** | 3 | 2 | 2 | - | 2 | - | - | - | - | - | - | 2 |
| **EC8252- Electronic Devices** | | | | | | | | | | | | |
| **C114.1** | 3 | 3 | 3 | 2 | 2 | 2 | - | 2 | 2 | 2 | 3 | 2 |
| **C114.2** | 3 | 3 | 3 | 2 | 2 | - | - | - | - | 3 | 2 | 2 |
| **C114.3** | 3 | 3 | 3 | 2 | 2 | - | - | - | - | 2 | 2 | 2 |
| **C114.4** | 3 | 3 | 3 | 2 | 3 | - | 2 | - | - | 2 | 2 | 2 |
| **C114.5** | 3 | 3 | 3 | 2 | 2 | - | - | - | - | 3 | 2 | 2 |
| **C114.6** | 3 | 3 | 3 | 2 | 3 | - | - | 2 | - | 2 | 2 | 2 |
| **EC8261- Circuits and Devices Laboratory** | | | | | | | | | | | | |
| **C115.1** | 2 | - | 2 | 2 | 3 | - | 2 | 2 | 3 | 2 | 3 | 2 |
| **C115.2** | 2 | - | 2 | 3 | 3 | - | 2 | 2 | 2 | 2 | 3 | 2 |

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| **C115.3** | 2 | - | 2 | 2 | 2 | - | 2 | 2 | 2 | 2 | 3 | 2 |
| **C115.4** | 2 | - | 2 | 2 | 3 | - | 2 | 2 | 3 | 2 | 3 | 2 |
| **C115.5** | 2 | - | 2 | 3 | 3 | - | 2 | 2 | 2 | 2 | 3 | 2 |
| **C115.6** | 2 | - | 2 | 2 | 2 | - | 2 | 2 | 2 | 2 | 3 | 2 |
| **GE8261- Engineering Practices Laboratory** | | | | | | | | | | | | |
| **C116.1** | 3 | - | - | - | - | - | - | - | - | - | - | - |
| **C116.2** | 3 | 3 | 3 | - | - | - | - | 2 | - | - | - | - |
| **C116.3** | 3 | 3 | 3 | - | - | - | - | 2 | - | - | - | - |
| **C116.4** | 3 | 2 | 3 | - | - | - | - | 2 | - | - | - | - |
| **C116.5** | 3 | 2 | 3 | - | - | - | - | 2 | - | - | - | - |
| **C116.6** | 3 | 2 | 3 | 2 | - | - | - | 2 | - | - | - | - |
| **C116.6** | 3 | 3 | 3 | 2 | - | - | - | 2 | - | 2 | - | 2 |

**PRINCIPAL**